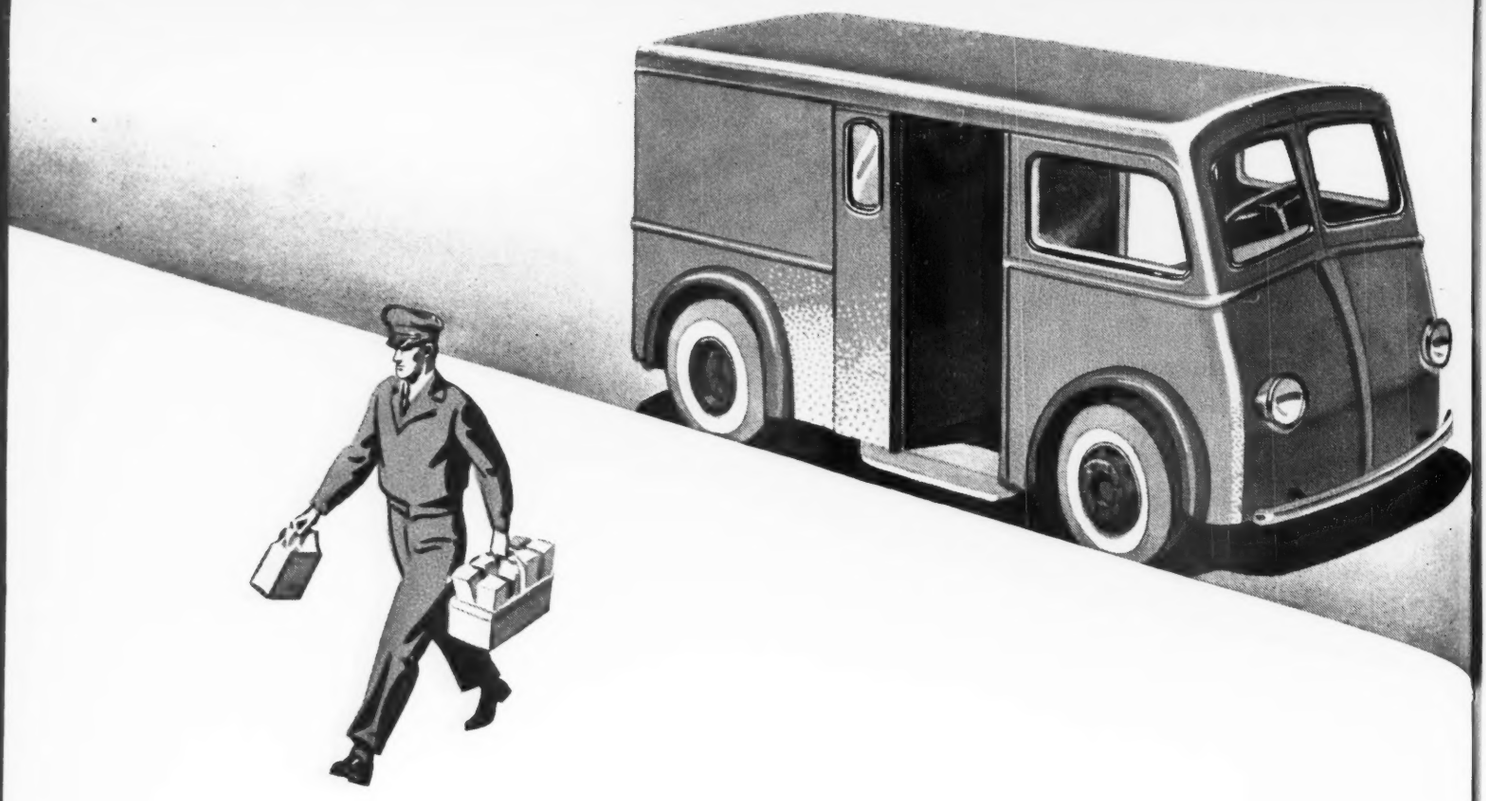
PRINTING EQUIPMENT Engineer

APRIL 1944



THINK OF WAGON RETAILERS

AS USERS OF

Offset Lithography

The man who handles a truck route is a fast mover. He has little time for personal selling. His boss must depend upon printed material to build sales volume.

Calendars and bottle-collars, bag stickers and window cards, garment tags and statement enclosures, direct mail and doorknob hangers—these are part and parcel of the merchandising material of *this one little sector of the business market.* They typify some of the opportunities for the shop equipped with offset.

There is wide interest in small Harris offset presses among letterpress shops. Gradually our factories are making a little headway in meeting the backlog of orders for all sizes of Harris presses, from 17 x 22″ to 50 x 69″, four-color. Your inquiries are invited. Do not expect early delivery. Harris-Seybold-Potter Company, General Offices, Cleveland 5, Ohio.

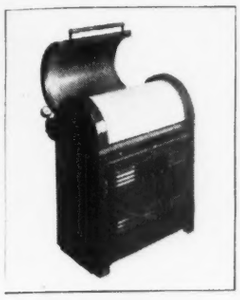
HARRIS PRESSES · SEYBOLD CUTTERS
OTHER GRAPHIC ARTS EQUIPMENT

HARRIS·SEYBOLD

Write today for the informative 24-page booklet on offset as it applies to the smaller establishment. Ask for "On the March."

SATISFIED STA-HI CUSTOMERS WRITE AN "AD" FOR THE MASTER FORMER

. . . We have always maintained that just about the best "salesmen" we could possibly have for the Sta-Hi Master Former are the machines themselves, once they are put into operation, and the many satisfied customers now operating this equipment in newspaper and commercial printing plants in this and foreign countries . . . Printed below are a few typical reports from customers relating how the Master Former is helping them solve the every day problems in their stereotype routine, and giving them better printing results . . .



"We want to tell you that our new Sta-Hi Master Former is doing a swell job. We have had no trouble in operating the machine and the dry mats turned out have uniform casting levels impossible to get with our former equipment. With the vacuum control timer we are able to control shrinkage at all times."

"Our Sta-Hi Master Former has arrived and is now in operation. The day previous we had about ten sinks. The next day the Sta-Hi went into operation and on the first edition we had no sinks. What a relief!"

"Our stereotype foreman says your Sta-Hi Master Former has been a life-saver for us. We are doing a better job all around . . . Your machine is timed and fast, and we have been practically free from chilled plates ever since we installed it. All in all, the results have been highly satisfactory. It is a good machine."

"We are very much pleased with the results obtained from the use of the new Sta-Hi Master Former recently installed in our stereotype department. It has eliminated buckles both large and small. It has reduced the differential in thickness of the plate so that the plate today never varies more than three-thousandths at any point . . . These points have improved our printing considerably."

"The new Master Former is so superior to the obsolete Type 'M' it seems as though our newspaper has a new dress. It certainly has sharpened up the appearance of our type and solids. Should you have any inquiry from anyone interested in this vicinity who desires to see the Master Former in operation, we will be very glad to demonstrate it to them."

"Our three Sta-Hi Master Formers have been in operation for some time. We are happy to report that all three machines are working very satisfactorily."

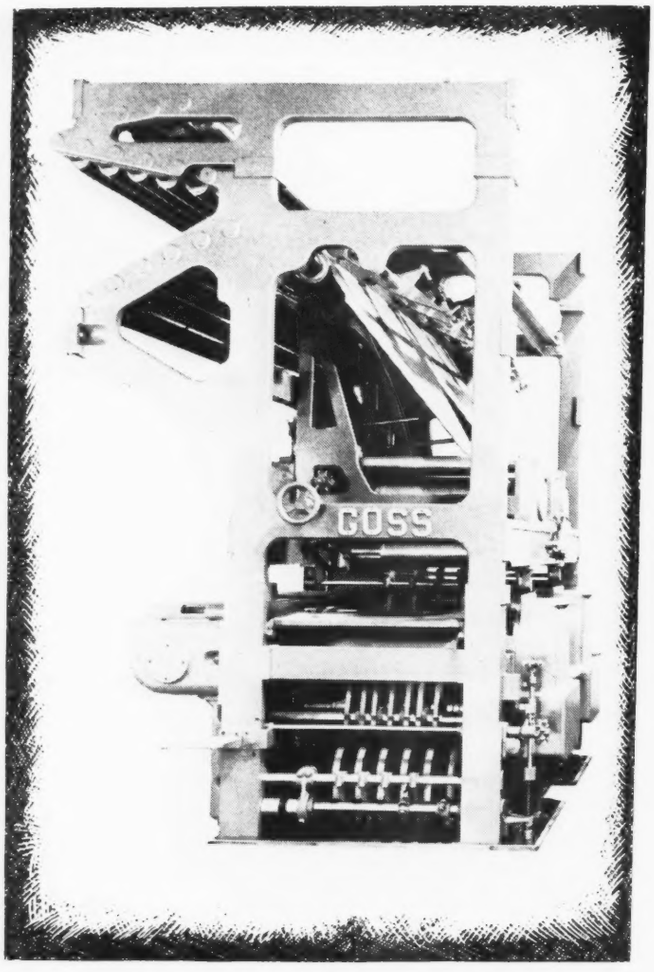
Sta-Hi Master Formers are now operating in large plants and small plants, in conjunction with varying types of casting and other stereotype equipment, on dry mats of all makes of manufacture, in widely differing routines of stereotype and pressroom practice.

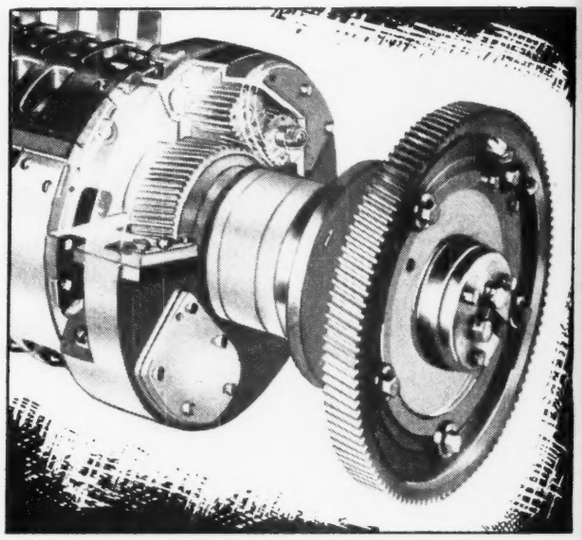
There is a definite place in your particular scheme of operation for a Sta-Hi Master Former . . . Let us tell you more about it, with no obligation on your part.

1020 Crocker Street .... STA-HI .... Los Angeles 21, Calif.

The HEADLINER

FULLY ENCLOSED FOLDER— OPERATING IN OIL!





The GOSS HEADLINER has the GOSS patented rotating folding motion in which all moving parts are mounted in ball bearings with *all gearing completely enclosed in oil tight housings and operating in oil.* Thus the wear and abrasive action of paper dust and grit causing wear in folders, is eliminated.

The New Headliner Folder is the most rugged newspaper folder built, thus guaranteeing trouble-free operation, and low maintenance costs.

The popularity of the GOSS HEADLINER is evidenced by the fact that there are over 300 units with color arrangements on order.

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SAN FRANCISCO 5
116 New Montgomery St.

PRESTON, ENGLAND
Goss Printing Press Co., Ltd.

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Located in downtown Chicago, these spacious quarters were planned for your convenience . . . to discuss your proving problems with us as well as obtain information regarding Vandercook Proof Presses, Block Levellers, and other Premakeready Equipment.

VANDERCOOK & SONS, INC.

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PREMAKEREADY EQUIPMENT

SAM'L BINGHAM'S SON MFG. CO.

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FABRIC-COVERED
ROTOGRAVURE

ROLLERS

OFFSET
COMPOSITION
VARNISH & LACQUER
GRAINING

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NATURAL RUBBER; VULCANIZED OIL

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FOR SUMMER USE

SHIP YOUR OLD ROLLERS

TO FACTORY MOST CONVENIENT TO YOU

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CLEVELAND 14
DALLAS 1
DES MOINES 2
DETROIT 10
HOUSTON 6
INDIANAPOLIS 2
KALAMAZOO 12
KANSAS CITY 6
MINNEAPOLIS 15
NASHVILLE 3
OKLAHOMA CITY 6
PITTSBURGH 3
ST. LOUIS 2
SPRINGFIELD, O.

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PRINTING EQUIPMENT *Engineer*

Volume 72 Number 1

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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April 1946

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TECHNICAL BOOKS

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

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PHOTOGRAVURE—By H. Mills Cartwright. Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.

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PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $2 per copy, cash with order.

HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy, cash with order.

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Please Note: All books orders must be accompanied by remittance . . . . This is necessary because of narrow handling margin allowed.

PRINTING EQUIPMENT *Engineer*

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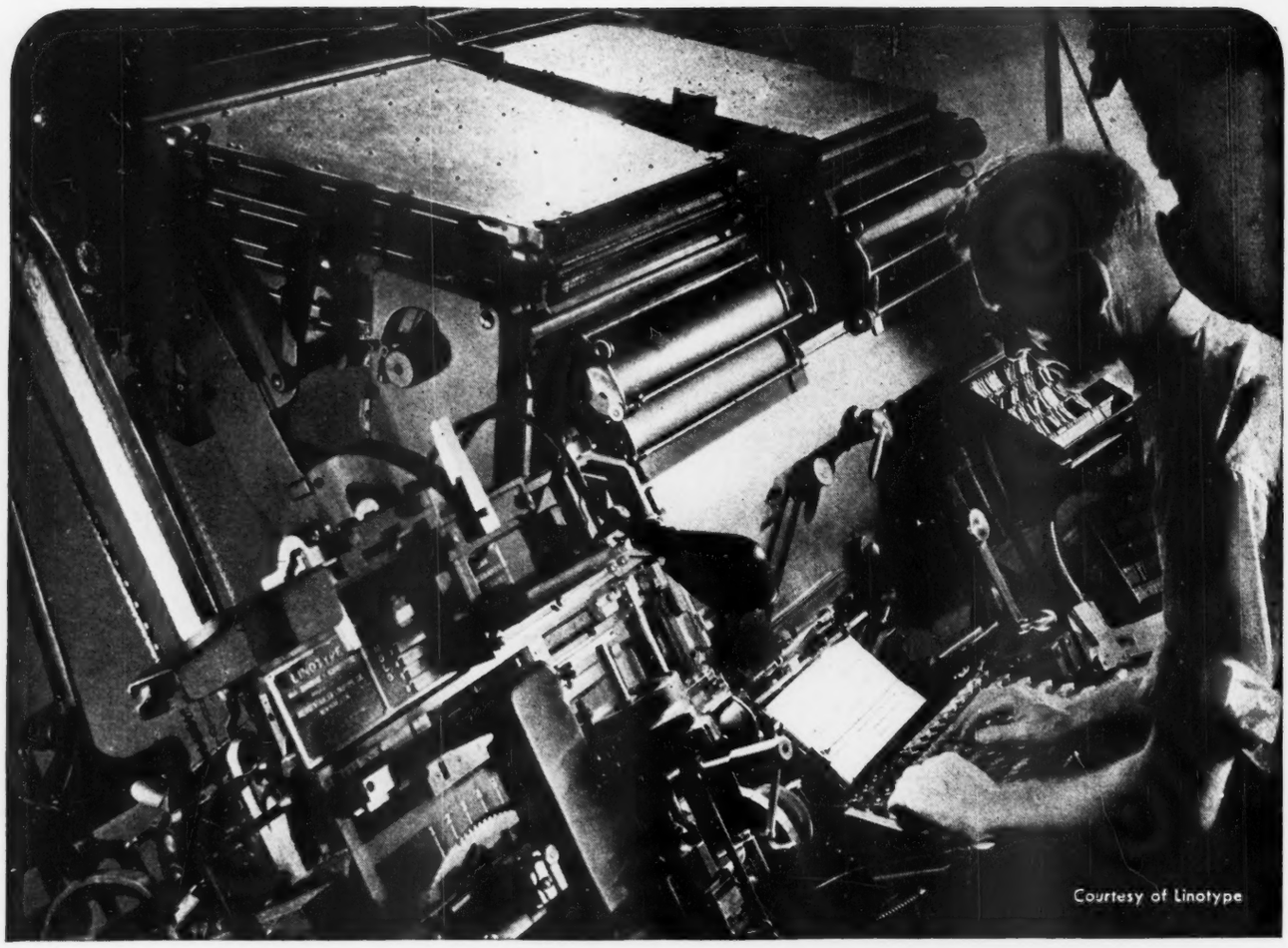

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Federated *Process* Type Metals are clean, possess excellent fluidity and will produce slugs and type of solid body and sharp face.

Clogging of type casting machinery is caused by dross. Less dross means less build up. The Federated patented process assures a low drossing type metal essential to trouble-free operation. Dross accumulation in the shop will be at a minimum.

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• The methods used in the manufacture of Federated process type metals are protected by U. S. Government patents.

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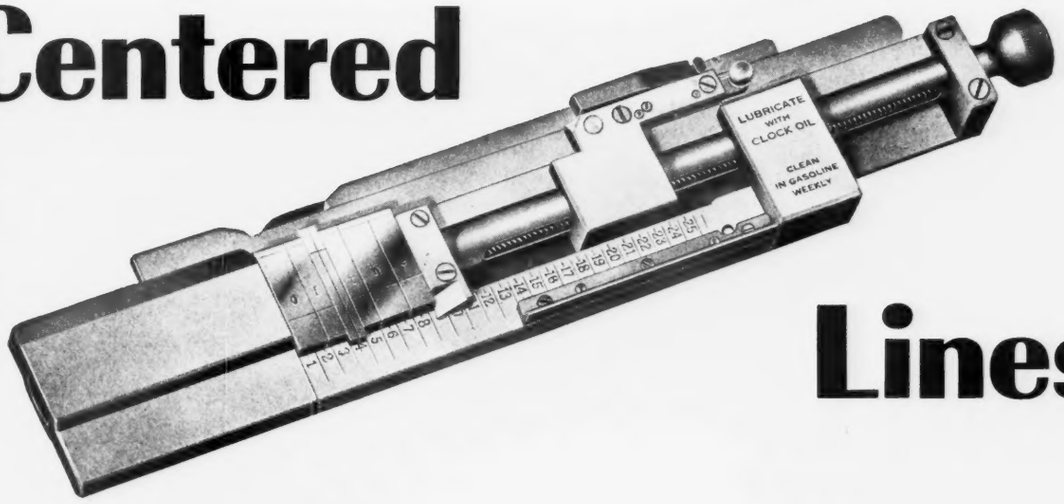

The LUDLOW WAY is Simple and Direct

CENTERING LINES set in single types consumes valuable time that could be used more profitably. Calculating the proper division, juggling spaces and quads back and forth, and finally spacing tight-to-lift, is hardly efficient production.

With a Ludlow Self-Centering Stick, illustrated above, the compositor turns out centered lines on the Ludlow with surprising speed. Setting the stick to desired measure, the compositor "gathers" type-face matrices and drops them into the stick, adding only spaces between words. He then merely pushes in the quadding slide and locks it against the matrices, which are automatically centered, justified and quadded-out ready for casting.

This feature is also typical of Ludlow efficiency in eliminating unnecessary operations, and our user-friends say that it reduces the time on such composition by more than half. The use of Ludlow makes possible so many other short cuts and simplifies so many composing room practices that the daily production record spells profit.

Let us tell you more about the Ludlow direct method—from copy to hot metal to form—that has revolutionized the handling and setting of display and miscellaneous composition.

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✶

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George Edwin Carlson
James E. Durand
Albert H. Huntington
J. Ralph Lee
Franklin Marshall
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✶

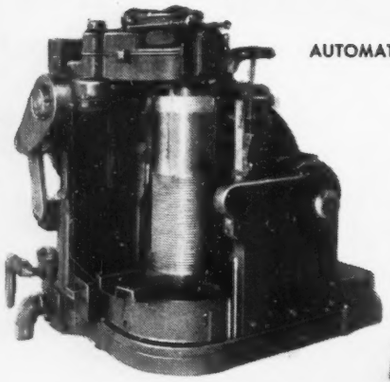
SERVING IN WORLD WAR II

An example of a Ludlow-set centered line job. It's profitable the Ludlow way.

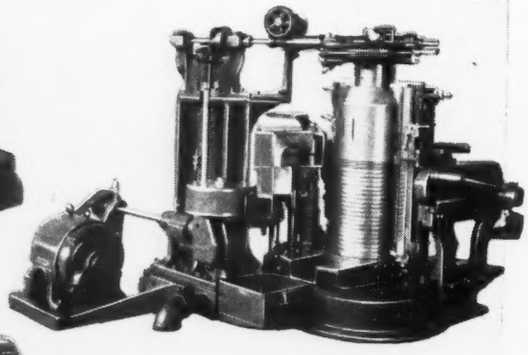
Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

WOOD AUTOPLATE EQUIPMEN

WOOD STANDARD AUTOPLATE EQUIPMENT

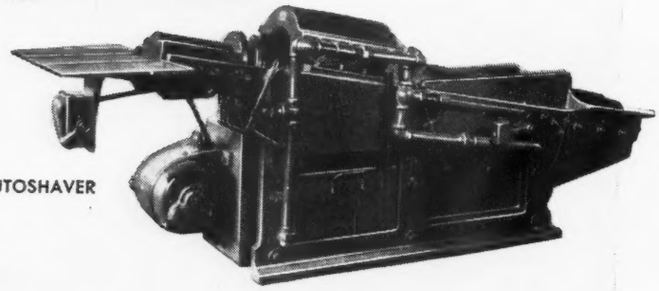


AUTOMATIC AUTOPLATE

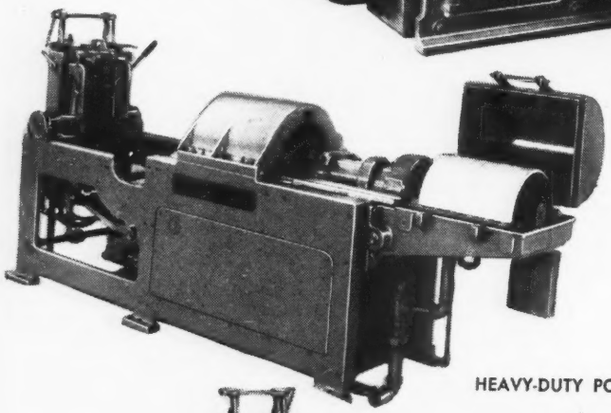


JUNIOR AUTOPLATE

HEAVY-DUTY AUTOSHAVER

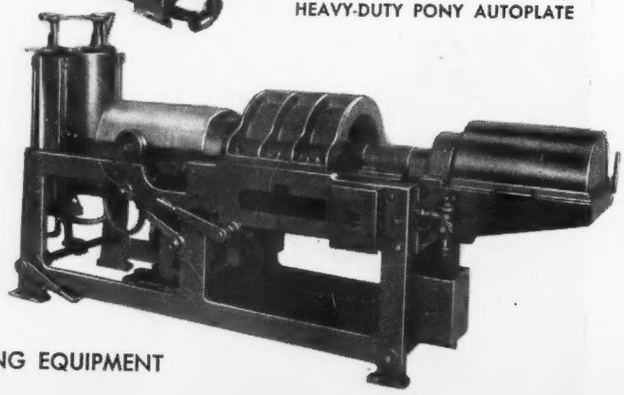


STANDARD AUTOSHAVER



HEAVY-DUTY PONY AUTOPLATE

STANDARD PONY-AUTOPLATE



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times over—under the abnormal c
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its merit has been doubly verified.

Four years of producing materials
war solidly tied up our engineer
and production facilities. With t
pressure removed, another has imm
diately taken its place—the urgency
supplying AUTOPLATE equipment

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exist, WOOD has geared itself, and
in a position to supply the Standa
line of AUTOPLATE and associat
equipment that has so ably served y
in the past.

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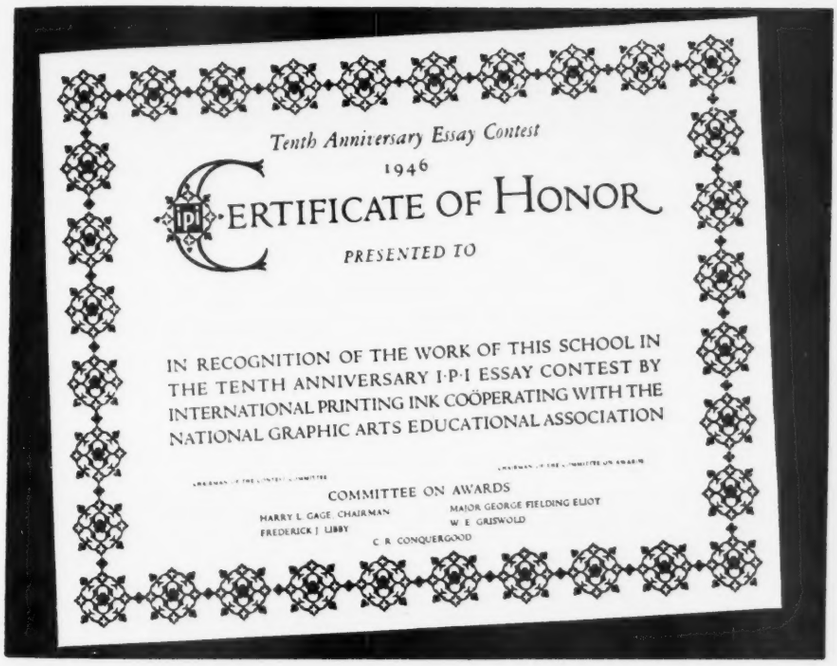
BRUCE ROGERS DESIGNS 1946 ESSAY CONTEST CERTIFICATE


Tenth Anniversary Essay Contest
1946
CERTIFICATE OF HONOR
PRESENTED TO
IN RECOGNITION OF THE WORK OF THIS SCHOOL IN THE TENTH ANNIVERSARY I·P·I ESSAY CONTEST BY INTERNATIONAL PRINTING INK COÖPERATING WITH THE NATIONAL GRAPHIC ARTS EDUCATIONAL ASSOCIATION
COMMITTEE ON AWARDS
HARRY L. GAGE, CHAIRMAN
FREDERICK J. LIBBY
MAJOR GEORGE FIELDING ELIOT
W. E. GRISWOLD
C. R. CONQUERGOOD

Work Commemorates Tenth Anniversary of IPI Essay Printing Contests

Certificates of Honor, which will be awarded this year to the teachers in all schools participating in IPI's Tenth Anniversary Essay Printing Contest, have just been received from the eminent designer, Bruce Rogers.

The certificates will be distributed early in April. Printed in red, gold and black, they reflect the typographic design skill which has made Mr. Rogers famous.

For the past two years it has been the custom to commission a prominent typographer to design the IPI Certificate of Honor. The 1945 Certificate was designed by Frederic W. Goudy.

Who's Next?

Whom would you choose to design the 1947 Essay Contest Certificate? What typographic expert would you nominate to carry on this tradition begun by Mr. Goudy and Mr. Rogers? Send your suggestion to: International Printing Ink Division of Interchemical Corporation, 350 Fifth Avenue, New York 1, N. Y.

Winners Soon To Be Announced

This year's contest theme, "Printing and World Peace" has produced more entries than any year since 1941. As a result the task of selecting the winners has been most difficult. The judges, however, expect to reach their final decisions soon, and announcement of the winners will be made as quickly as possible.

Customers Laud New Gem-Tone Inks

Ever since their introduction to the trade a short time ago, IPI's new Gem-Tone inks have been drawing praise. Said one enthusiastic customer, "You know, those new inks really sparkle."

He's right, too. And that gave us the idea for the name, Gem-Tone. Gem-Tone inks sparkle like jewels.

If you haven't yet caught up with these new IPI inks, why not let one of our men tell you about them? He can show you how they perform.

IPI Inks Score High with Printers of 1946 T&H Calendar

1946 marks the 23rd year for the famous Tileston & Hollingsworth Company calendar. This year twelve New England craftsmen printed twelve New England lighthouses. Six of those printers used IPI Inks.

In the estimation of Paul A. Bennett, the critic who reviewed and analyzed the T&H calendar, the month of October topped them all. October was printed in IPI Offset Inks exclusively. They were an IPI Offset Black, reduced to gray, IPI Offset Black, and an IPI Offset Orange.

BIG CHIEF REMELTER

With this Remelter you can save as much as 50c from every fuel and labor dollar which your obsolete furnace is costing you. Look into your remelting costs and see how soon this Big Chief will pay for itself in the savings on fuel, labor and on dross reduction.

The unit shown here is a 2400 lb. electric heated Big Chief Remelter with a Twin-eight (16 cavities) water-cooled mold that casts the Double-ear Slip-off ingot.

Gas Fired

- 1200 lb. capacity
- 2400 lb. capacity
- 3200 lb. capacity
- 4800 lb. capacity

Electric, including panel-board

- 1200 lb. capacity
- 2400 lb. capacity
- 3200 lb. capacity
- 4800 lb. capacity

Write for illustrated catalogue which contains operating information on the Big Chief Remelter — also data on the Little Chief for smaller plants, Twintype molds that cast the Slip-off ingot and the Jordan Feeder.

ORDERS WILL BE FILLED IN THE ROTATION OF THEIR RECEIPT — WE ADVISE YOU TO PLACE YOUR ORDER NOW.

DIRECT YOUR COMMUNICATION TO ADDRESS NEAREST YOUR LOCATION.

FEATURES

DUOFOLD INSULATION reduces fuel costs by conserving the heat.

THERMOSTATIC CONTROL automatically regulates the heat.

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MOTORIZED AGITATOR mixes and cleans the metal.

INTERNAL LIGHTING permits efficient skimming.

CONTINUOUS CASTING-TROUGH speeds casting.

CAPACITIES: 1200 lbs., 2400 lbs., 3200 lbs., 4800 lbs.

FUEL: Gas (manufactured, natural or mixed), Electricity, Coal.

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The FIRST STEP: Print from Forms Made Up of Monotype-Cast Machine- and Hand-Set Type

● The constant rise in wage rates and in the prices of the materials used in printing make it more than ever important to carefully examine the cost of production in all departments of a printing plant. The use of Monotype-cast machine-set and hand-set composition offers opportunities for substantial savings in makeready time and assure longer press-runs. Every Monotype owner knows this to be so.

Because—

The height-to-paper and the body point-size of each Monotype-cast type and piece of strip material are determined by the dimensions of the mold cell. Therefore it necessarily follows that each and every piece of type in a line will be the same exact height and point size over the entire length of the line — and that each Monotype-cast rule, dash, lead and slug will be just as precisely made. This is why forms made up of Monotype-cast type and materials cost less to makeready and to print and at the same time do printing of highest quality.

Every Printer should realize that the total cost of composition includes the time spent in making it ready to print up to his own standards of quality.

Letter #

Uniformity of letter-spacing over the entire length of the line, in both wide and narrow measures, is an advantage available only on the Monotype Typesetting Machine.

LANSTON MONOTYPE MACHINE COMPANY

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Composed in Monotype 20th Century Family with Monotype 10 point Baskerville and Monotype Artscript

More Errors With Untreated Matrices
Easy to Read Black & White Relieves Eyestrain
Untreated Matrices Hard to Read
Service Includes Regular cleaning Too!
the old way
the new way

BLACK & WHITE GIVES SO MUCH FOR SO LITTLE

BLACK AND WHITE processed matrices save an average of approximately one-third of all errors in original composition. Think what such a reduction in errors means! One-third fewer corrections for operators to set and one-third fewer correction lines for floor men to place! Not to mention other savings all along the line.

These time savings are effected because Black & White reference marks are so easy to read that errors are plainly visible in the assembling elevator. Black and White serviced matrices have a visibility factor equivalent to 9½-point type as compared with 3-point for used non-processed matrices. Thus, Matrix Contrast Service not only reduces errors but relieves eyestrain, lessens fatigue, conserves energy and promotes increased production at lower costs.

Matrix Contrast Service covers the regular processing of all your matrices. The work is done in your plant by trained crews. New matrices are processed at our nearest service station before delivery to you.

Furthermore, regular servicings include the thorough cleaning of matrices. Clean matrices save time and trouble for the machinist, give the operator a faster, more dependable keyboard response and help to maintain maximum machine output.

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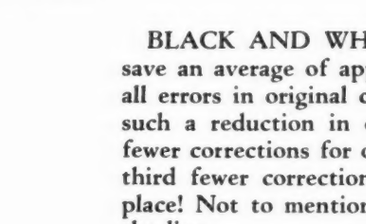


Matrix Contrast Service

Rotogravure — *Three types of jobs discussed as suitable for the process — Technique of process explained—Summaries of advantages and disadvantages of gravure*

By JOHN D. MURRAY*

**Vice President, Murray Printing Co., Toronto, Canada. Abstract of paper presented at Graphic Arts Day, Toronto.*

ROTOGRAVURE, or more simply gravure, is a photo-mechanical intaglio printing process and prints are obtained from a plate or cylinder upon which the design has been etched below the surface.

Let us approach this subject by leading you through the various steps as undertaken in our plant from start to finish in the production of any given job. I would like to deal with the operations in making a printing cylinder, followed by a brief description of the printing press, a reference to the type of ink and of the paper used, followed by the time factors involved in producing three actual printing jobs.

By dealing with the subject in this way I believe we will be in a better position to deal with such questions as the advantages and disadvantages of this process and "when Gravure?" and "why Gravure?"

The following steps are involved in preparing the copper printing cylinder:

We will take a piece of art work of the type used for reproduction regardless of the process engaged in. It is prepared to certain specifications and dimensions, and is all that is necessary for reproduction purposes. This art work can be a wash drawing, a photographic print, kadochrome, black and white proof or practically anything which does not have a screen.

The next operation is in making a negative from the original art work. This negative is without screen and so can be retouched with pencil or dye. Most of the retouching for highlights and light tones is done on this negative.

The third step is to make a positive from this negative, and it is this positive that we actually reproduce on our cylinder, by means of the carbon tissue sheet. This positive is also without screen and can still be retouched, mostly for detail and shadow tones. Unless the art work is held for cylinder corrections it can now be returned and the negative filed for future use after the same style that letterpress printers file electros and halftones. We, unlike other printers, cannot hold our finished printing plate from each job as the cylinders must be stripped and prepared for other work, except for the odd exceptional case where the cylinders are made to special specifications for a particular job and for the purpose of holding for reprints.

We now have our positive, which is laid in position on the form, or I should say, assembled with the other pages in proper position, very much after the style of the letterpress printer locking up his form for the press. However, we lay out our form, a large piece of glass which has been marked out with margins, exactly as the finished work must appear on the cylinder.

The next step concerns the operations of getting this assembly of positives projected onto the copper printing cylinder and is somewhat difficult to explain. The operation might best be described as similar to that we all performed as kids when applying those printed transfers to the back of our hands or walls.

This involves the use of a sheet called the carbon tissue which is sensitive to light and which is exposed to light, first through a 150 line screen which will ultimately give the cylinder the cellular preparation which is so vital, and then, secondly, exposed to light which passes through the form of positives. The printing is done with arc lights in a vacuum frame. Doing this projects the original form of positives onto the carbon tissue sheet and it is with this sheet we are now concerned. The original form can now be discarded.

So that we don't get involved with a technical description, let me say that the action of light passing through, first the screen and secondly the form onto the carbon tissue, hardens the tissue in proportion to the amount of light which goes through the screen and photographic positives, and makes the tissue resistant to the etching acid—proportionately.

The carbon tissue sheet is now laid on and transferred to the copper-coated printing cylinder and developed with water, is dried and then etched by the pouring on of different strengths of acids, in such a way that the original form now appears etched into the cylinder, with all degrees of tone. (This part of an actual printing cylinder, the thin outer coating which has been stripped off 0.008 in. thick.)

The cylinder is then placed in the press, ready for printing.

As far as the type of press is concerned, the fundamental principle is the same as for any press. The application of the ink to the paper, however, is somewhat different. The etched cylinder revolves in a trough of ink and while rotating a flexible steel knife presses lightly against the cylinder and scrapes the surplus ink from the surface, leaving only the ink held in the cells which vary in depth according to the tone value of the picture. As the cylinder continues to rotate, the etched cavities or cells are pressed into contact with the paper and the only ink that is transferred to the surface of the paper is that held in the honeycomb of cells. These are at the deepest 0.0025 in. deep for black and vary from that depth to a smooth surface for white.

In short, the press must satisfy four main essentials:

1. There must be a place where the cylinder can be clamped into position and made to rotate.
2. There must be an inking device—and this is done by the ink trough.
3. There must be a device to scrape the surplus ink from the cylinder; this is done by the flexible steel knife, known as the "doctor" blade.
4. There must be some means of bringing the paper into direct contact with the cylinder; this is done by means of a rubber impression roller which presses the paper against the printing cylinder in such a way that the entire charge of ink on the cylinder is transferred to the paper.

The paper is fed into the press from rolls and the entire process is continuous.

In connection with the paper, practically any paper lends itself to gravure printing with the exception of coated and offset papers. We have found that the best results are obtained with No. 1 S.C. book. Coated paper has to have a special coating, and offset and antique papers are too hard unless specially made. The paper must be very even on both sides as differences in finish show up more than they would by letterpress.

The ink must have certain characteristics and differs a great deal from that used in other processes. It must be:

1. Extremely fluid.
2. The pigment must be in a fairly fine state—fine enough so that there is no danger of the cylinder being scratched.
3. There must be a good binding medium to hold the pigment on the paper, and
4 Lastly, the ink must be capable of drying very quickly by evaporation and absorption.

We have found the process most satisfactory for reproducing colour work of high order.

I have said that certain work lends itself more readily to production by this process than other types of work. It would naturally appear, therefore, that any job we produce would fall within this category.

Gravure Section of Canadian Weekly

Let us examine some of our actual work and I will try and give you some idea of the preparatory costs, time factors involved in production, and with your knowledge of offset and letterpress, you can draw your own conclusions.

Here is a rotogravure section of a large Canadian weekly newspaper with a production of more than 200,000 copies. It is of standard size, not stitched, and contains national advertising, illustrations and up-to-the-minute news pictures.

It is printed in four colours. The actual press running time is approximately 56 hours. This job comes off the press folded in one 24-page section, ready for shipping.

The colour advertisements are received approximately three weeks before going to press, depending on the availability of copy. The material for the coloured cover is received approximately two weeks before press time. The monotone advertisements are received approximately one week before and the editorial matter and type two days before press-time. A very close schedule.

These 24 pages were produced using two cylinders for the monotones with an additional cylinder for each colour.

This press will print one colour on one side of the sheet and four colours on the reverse side and, by juggling the folding, colours can be reproduced on practically any page except the backup of a colour page.

A 4-colour rotogravure machine represents an investment of more than $100,000. Five experienced men are required to operate this machine and a very rough idea of the cost of preparing each master cylinder in black and white would be approximately $320.

This job runs at a speed of from 3000 to 4500 finished copies per hour. The actual makeready time, as we letterpress printers know makeready, is nil. What we might refer to as "makeready" is done in gravure from the time the art work is being prepared down through the steps leading up to and including, the etching of the cylinder.

We cannot keep a job of this type standing. After one issue is finished the cylinders are stripped of the thin outer copper coating and prepared for the next job.

We can, however, keep our negatives and positives to use again when needed and many advertisements and parts of advertisements are picked up from issue to issue.

There are many other small details in connection with corrections, and last minute retouching of the cylinder, which make this process flexible for work of this type.

Canadian Edition of American Magazine

Here is a national magazine—48-pages and cover. The cover is produced by another firm by letterpress but the 48 inside pages are printed by gravure. This is the Canadian edition of an American magazine. There are more than 240,000 copies printed every week, containing national advertising, stories and articles of current interest.

The advertising material is received seven or more days before the press date and other matter up to three days. Some material, mostly text, is sent in from the States in the form of bronze proofs, which are handled as positives and placed right in position on the form.

This job is printed on a 4-colour press and is produced at the rate of approximately 4000 finished copies off the press per hour. There are machines which print at three times this speed but they are not economical for the average Canadian small run.

This is a rotogravure job. It is possibly the only way the magazine could be produced to meet the required schedule.

Catalog by Gravure with Letterpress Cover

My third example is of the type with which we are all familiar and all print in our shops, whether letterpress, gravure of offset. It is a catalogue. Here again we have combined letterpress and gravure in production. The cover by letterpress; the inside by gravure. The runs for this particular job have varied from 40,000 to 170,000 at a printing.

Here again is a job which has certain characteristics to make it a gravure job.

First, there are numerous illustrations —nearly all drawings. The type has to be set around these drawings in such a way that makes hand or machine composition very difficult. We merely paste a proof of the type on the art work. Corrections in specifications and of prices are easily made on the negatives or positives.

As this catalogue is reprinted from time to time, we always have what might be called our "type standing" in the shape of negatives and positives which can be re-shot, with necessary corrections, additions or replacements, and a new printing plate made. This is a good job for gravure when starting from scratch and can be produced more economically than by any other processes. Against this, if some electros are available or on hand, or if certain changes are necessary, or for some reason the job is unsuitable for our process, then we must step out of the picture. Each job must be considered on its own merit.

We usually consider that the preparation of a cylinder is more economical than making individual engravings and printing by letterpress if there are one-third or more illustrations in the book. We can compete with runs as small as 25,000 if the flat sheet is at least the size of the dimensions of the printing cylinder which runs from 33 in. to 57 in. in circumference and approximately 54 in. width.

We are not necessarily confined to work of this type, although there is a decided leaning this way.

Summaries of Gravure Process

From the preceding information let us summarize and try to reach some general conclusions of the advantages of the gravure process:

1. Production time is short; presses are capable of running at a speed up to 6000 i.p.h.
2. There is no makeready time; the only makeready is in starting the press rolling.
3. The preparation of the copper engraving plate is cheaper than the preparation of individual engravings for printing by letterpress for both monotone or colour. Do not forget, we make all our engravings on one plate at one time.
4. We fold on the press and the job can come off ready for shipping.
5. We can use light paper and obtain satisfactory results.
6. The same screen, 150 line, is used for all printing regardless of the paper. This screen does not show up like the letterpress screen and produces a better-looking illustration.

This presents a satisfactory picture but it is only fair to point out some of the disadvantages, which are as follows:

1. This process is only suitable for fairly large runs where we can take advantage of press speed and press folding.
2. As there is a screen in the type, the process does not lend itself to perfect type reproduction. We have to avoid the use of very fine type and type with serifs.
3. We can only use coated, offset and antique finished paper if specially made.
4. This process is not as dependable for high-class colour work, especially as to registration, in comparison with that turned out by sheet fed letterpress. We do, however, consider ourselves the equal of rotary letterpress.

SKF Supports Food Drive

SKF Industries, Inc., has asked the 2,400 employees who daily eat in the cafeteria to practice voluntary food conservation both at work and at home.

Food economies in the cafeterias include the broiling of practically all meat and fowl products, the re-use of fats and cooking oils, and the substitution of boiled dressings for those containing oils. Fats such as suet and trimmings are rendered into frying fats.

> "Manufacturers' representatives are encouraged to participate in any and all discussions of the various group meetings"
>
> Printed on the second page of the Northwest Newspaper Mechanical Conference program, held in St. Paul, Minn., February 16, 17, 18.

Hydry Inks *originally developed for food wrappers and carton printing, show possibilities for eliminating first impression offset in newspaper printing — Inks set by impingement of steam — Experimental and cost data*

By WILLIAM G. FORSTER*

*General Printing Ink Div., Sun Chemical Corporation. Abstracted from address presented before the PNPA Mechanical Conference, Harrisburg, Pa., April 1946.

HYDRY is a new and fundamentally different printing ink that holds great promise for newspaper printing. Hydry is a steam-set ink. The drying of printing inks has been a subject of study and research in the ink industry for many years. Hydry ink marked the culmination of years of experimental work on the part of Michigan Research Laboratories, Inc., with practical tests by the E. J. Kelly Company, both subsidiary companies of Sun Chemical Corporation. Because of the rapid drying and odorless characteristics of the new ink, printing for food wrappers and cartons appeared to be the logical field in which to make the preliminary development in the printing industry.

The first public announcement of Hydry ink was made in February, 1941. Prior to this announcement intensive field tests had been made by reputable and progressive printers in various sections of the country. Since 1941, Hydry inks and process have been used successfully on a commercial basis in selected types of printing plants to determine specific applications for which Hydry would be best suited. It was demonstrated that Hydry ink has advantages over conventional ink in many fields of printing. These advantages include fast drying, non-offset, complete absence of odor, non-skinning, non-crystallizing, and clean, brilliant colors.

During the war years the development of Hydry ink was necessarily retarded due to the scarcity of certain raw materials. However, the use of Hydry inks for printing food wrappers and cartons has been firmly established because of the rapid drying and lack of odor on the printed product. The use of Hydry during the war period was largely limited to the printing of food containers.

It would be well to tell you something about the ink itself, and briefly review the various types of ink from the standpoint of drying. No doubt you are all familiar with the four general types of ink known to the trade as: Penetrating, Oxidizing, Evaporating and Cold-Setting.

Penetrating Inks—Newspaper inks are included in the Penetrating group and depend on the absorbency of the paper for drying. News inks vary in construction from simple mixtures of mineral oil and pigment to those containing a resin in a mineral oil solution plus pigment. This type of ink is not adapted for printing on hard-surfaced paper and the printing produced on most absorbent sheets is generally soft and not resistant to smudging.

Oxidizing inks for letterpress printing, lithography and intaglio engraving, harden because the vehicle is primarily a drying oil or a drying-oil-modified-resin. These materials absorb oxygen from the air, aided normally by drying catalysts which are usually compounds of such metals as cobalt, lead and manganese.

Evaporating inks are of two major classes. The heat-drying inks use a binding resin in a solvent such as a mineral oil fraction which is essentially non-volatile at room temperature but very volatile at high temperatures. The other class includes the aniline and gravure inks which make use of a variety of volatile solvents with binders of various types. Heat required for the volatilization of these solvents often dehydrates the sheet which may cause troubles in subsequent operations. Venting of the sometimes toxic and usually inflammable fumes resulting from heat-drying, aniline or gravure processes, as well as possible fire hazard, are factors to be considered when using these types of inks.

Cold-Setting inks depend on a hot-melt process which requires that the fountain, steel ink rolls and plate cylinders that come in contact with the ink, be heated above the flow point of the solid ink. When this ink comes in contact with the relatively cold paper it solidifies to form a dry film.

Hydry is not based on any of the principles just outlined. They do not oxidize, nor do they require evaporation of solvents. Hydry inks consist of a pigment or pigments, and a vehicle (or varnish) composed of special synthetic resin and an odorless organic solvent that has a high boiling point.

The resin is soluble in the solvent and in a mixture of the solvent and a limited quantity of water. However, it is insoluble in a mixture of the solvent and a greater quantity of water. When a film of the varnish formed from this resin and solvent is subjected to a quantity of water, the binder is thrown out of solution, thus "drying" the ink film. The additional water to set the ink usually is applied by a device which impinges steam at low pressure against the surface of the web or sheets of paper just after printing. The steam applicator device is simple in design and construction, and in addition to drying the ink, makes it possible to retain the normal amount of moisture in the paper. This fact has been beneficial in many installations where subsequent operations require the paper to be free of dryness and brittleness. The steam also eliminates static electricity in the paper, and generally contributes to better printing with less trouble.

In some applications the small amount of moisture in the paper or in the air has been sufficient to set the ink. In other instances, Hydry ink may be dried by

Qualities

of Hydry Steam-Set Inks for Newspaper Printing

- Immediately after the first impression side of a newspaper web has been printed with Hydry Ink, low pressure steam is impinged against the freshly printed web. The steam "sets" the ink to prevent offset of the first impression ink against the second impression cylinder blanket and from the blanket back to the web at the time the second impression is made on the opposite side of the web. The printed pattern of the first impression does not always "track" exactly in register on the second impression cylinder blanket.
- The hardening of the surface of the ink on the first impression printing by steam impingement is practically instantaneous — the time interval between first and second impressions of the web taking place in a fraction of a second.
- Hydry inks consist of a pigment or pigments and a vehicle composed of a special synthetic resin and an odorless organic solvent possessing a high boiling point.
- The low pressure steam used to set Hydry inks tends to eliminate static electricity in the paper.
- Trial runs indicate that in first impression printing black ink has been dried successfully at press speeds of 35,000 per hr.
- Composition rollers must not be used with Hydry ink. Rubber or synthetic rollers are necessary.
- Washing rollers can be done with alcohol, carbitol acetate or similar solvents.
- Hydry inks are made in all colors, have excellent trapping qualities.
- Cost of Hydry ink is considerably more than that of the conventional newspaper inks.

existing equipment formerly used on heat-set inks, since Hydry can also be dried in this manner.

The primary motive for the creation of Hydry was to provide an ink and a process that would prevent offset immediately after printing, and at the same time eliminate some of the disadvantages of other methods of setting ink films. This objective has been accomplished in many applications of printing with Hydry inks.

Every mechanical executive and pressman in the newspaper field has been faced constantly with the demands for a better printed product, and these demands will become more exacting as competition increases in the publishing business. Ink manufacturers have been keenly aware of these changes and requirements, and have done their utmost to meet them in spite of many obstacles.

The George H. Morrill organization has approached the trials of this new ink for the printing of newspapers in the manufacture of newspaper inks. In adapting Hydry ink to the use of newspaper printing presses, the problems are quite different as compared with most commercial applications. Some of these newspaper problems which had to be considered may be outlined as follows: The high speeds of presses, the hygroscopic character of newsprint, provision for long shut-down periods of presses with the necessity for the ink to be stable at all times, and the ink to be used in automatic fountains must have flow characteristics.

Let us consider some of these problems individually. First, is the high speeds of paper web travel. Between first and second impression printing, the time element for drying printing is well known to all of us, and this is the position that was chosen for the first trials of Hydry ink on newspaper printing. Second, is the hygroscopic character of newsprint. Since newsprint is generally unsized, it will absorb moisture easily, and the introduction of wet steam for drying the ink presented a major problem. On the trials we have overcome this by super-heating the steam under automatic control so that the sheet is not made too wet. The third problem, mentioned earlier is the necessity for stability of the ink during the long shut-downs on presses between editions or from day to day. In other words, the ink must be made so that normal humidity in the air will not set the ink on the ink distribution systems of the press. The fourth problem which I have mentioned concerns flow of the ink for use on automatic fountains. No trials have been made on this point, but we are confident that it can be done.

During the past few months, General Printing Ink Co., Div. of Sun Chemical Corporation, has enjoyed the cooperation of several large newspaper publishers in running trials with Hydry inks on newspaper presses. While these trial runs have been most encouraging there is still much work ahead of us before Hydry can be proved or disproved as the answer to the pressmen's prayer on newspaper printing.

The trials have indicated that on first impression printing we have successfully dried black ink at press speeds of 35,000 per hour, to the extent that highlights of halftones were perfectly clean, without the usual first impression offset generally apparent. This accomplishment makes further test runs advisable. I think you will agree that to dry ink completely between first and second impressions on a newspaper press at 35,000 per hour on a test run is a distinct achievement. To do the same thing on regular production runs, day in and day out, will be the aim of future trials.

There are a few more interesting points concerning Hydry ink which I should like to bring to your attention. Hydry ink must not be used with composition rollers, but that fact does not concern most newspaper printers. Rubber or synthetic rollers are necessary. Washing up after Hydry cannot be performed with customary solvents such as kerosene. It is necessary to use alcohol, carbitol acetate or similar solvents for this operation.

Hydry is made in all colors and no difficulty is experienced in obtaining excellent trapping qualities.

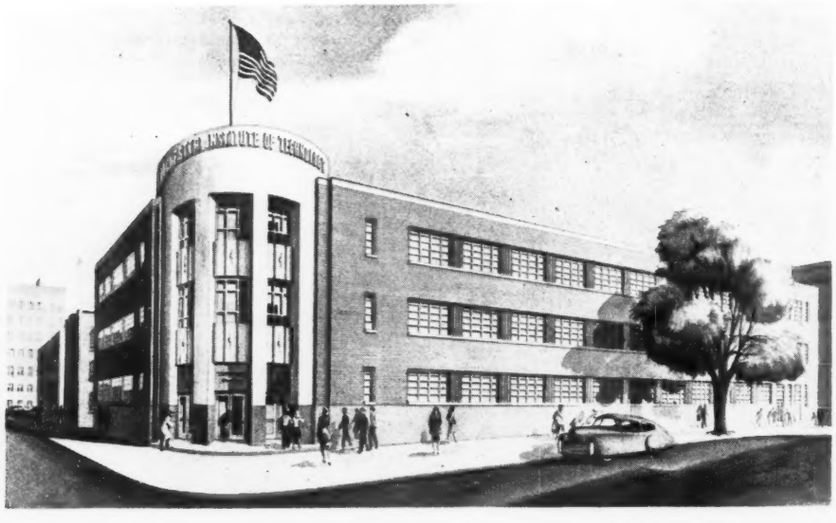
Hydry inks and conventional oil base inks are chemically incompatible and, therefore, cannot be used together in a position where one might contaminate the other.

The cost of Hydry ink is considerably more than that of the conventional newspaper inks. But the vastly improved appearance of the completed newspaper will more than justify the additional expense. The cost of ink at the present time is the smallest item of operating expense in newspaper publishing. The ratio of cost of ink to newsprint is approximately 1:35 or 1:40. In other words, a ton of newsprint paper costs about $68. The news ink to print the ton of paper costs about $2. Fugures showing the details of operation in a 50,000 circulation newspaper were recently published. This article showed paper and ink amounting to 17.01% of the total operating expense. Splitting this item of cost into respective components indicates that paper was 16.61% and ink .40%, or less than half of one per cent for ink.

You may be sure, however, that our laboratories are working full speed ahead on perfecting Hydry for newspaper printing—it's a major project.

Pass along your mechanical improvements to other executives who read PRINTING EQUIPMENT ENGINEER. *They'll be glad to have your help.*

New Building for Printing Department at RIT



THE Department of Publishing and Printing at the Rochester Institute of Technology is making rapid progress in its postwar expansion program. A new $700,000 building, now under construction, is scheduled to be completed in August, 1946. The Department of Publishing and Printing will occupy the entire second floor comprising over 27,000 sq. ft., approximately three times the amount of floor space formerly devoted to printing. This expansion will provide increased facilities for teaching letterpress printing, offset-lithography and platemaking.

A feature of the new plant will be a complete production office and shop for instruction in the production problems.

The Department of Publishing and Printing at RIT is one of the few schools in the country offering courses in printing on the technical level. The program includes two and three-year full-time courses and three-year co-operative courses. A student may follow a general schedule or he may choose an area of emphasis. Areas of optional emphasis include hand composition and typography, machine composition, Monotype, presswork, production and management, printing design and layout and advertising. Special and part-time courses are available in all areas in which regular programs are offered.

Equipment and Supplies

Goss Unitube Press Improved — Color and Other Features

ENGINEERS of the Goss Printing Press Company have developed the improved Goss Unitube newspaper printing press. The press is intended for use by medium size daily newspapers to make available greater possibilities for the use of color in advertisements.

Goss has announced that the Improved Unitube Press is of the unit type in four-page design for better newspaper printing, greater color flexibility and is manufactured to precision requirements.

Color can be obtained on any or all webs by (1) Reversing cylinders, (2) Adding color cylinders at the top of the units, or (3) A combination of these two methods.

Among the features of the Goss Unitube Press are the tension plate lockup and the continuous feed ink system. The latter, states manufacturer, insures printing quality at any speed.

The Goss factory is now in production on these presses.

The Goss Unitube Press is designed with one standard cutoff of $22\frac{3}{4}$ in. or approximately 21 in. column. The number of pages may be increased in multiples of two up to the maximum capacity of the press. Goss engineers have issued the following statements with respect to the Unitube Press:

"The unit type press construction permits buying a press of limited page capacity initially and to increase its capacity or color printing range at any time by adding additional units, reversing cylinders, or color cylinders. Each unit is designed to produce 4 pages of a newspaper hence the number of units required depends upon the maximum number of pages desired. If color is desired, for example, on front and back pages one or more color cylinders can be added to the top of the first unit as shown in the photograph. The units are entirely independent of each other with passageways for accessibility and inspection of run between all units and folder.

"The Goss continuous feed ink system makes possible continuous printing since in this system a continuous, uniform infeed of ink is provided which eliminates color variations in the printed product. This new principle has been in process of development for several years and will now be standard equipment on all newspaper presses manufactured by Goss. It eliminates ductor or ink feeding rollers, thereby excluding the necessity of changing half and full length rollers for ink feeding. Replaceable fountains are provided as standard equipment on all units and color cylinders to facilitate changing the colors of ink as is required for r.o.p. color work.

"The Goss tension plate lock-up whereby the tubular plate is locked to the plate cylinder under tension makes possible a better printing, regardless of speed. By its use a continuous even impression is obtained at all points on the plate which results in longer life to the press blankets and reduction in paper breaks."

The Unitube folder is rigidly constructed and is furnished with regular belt delivery and with counter for 25 and 50 paper lots. The two-fold type is standard, but where quarter-fold papers are desired the attachment can be added to the original folder.

The Unitube Press can be supplied with underneath feed where the paper room is at a lower level than the press room floor, or the paper feed may be from pressroom floor.

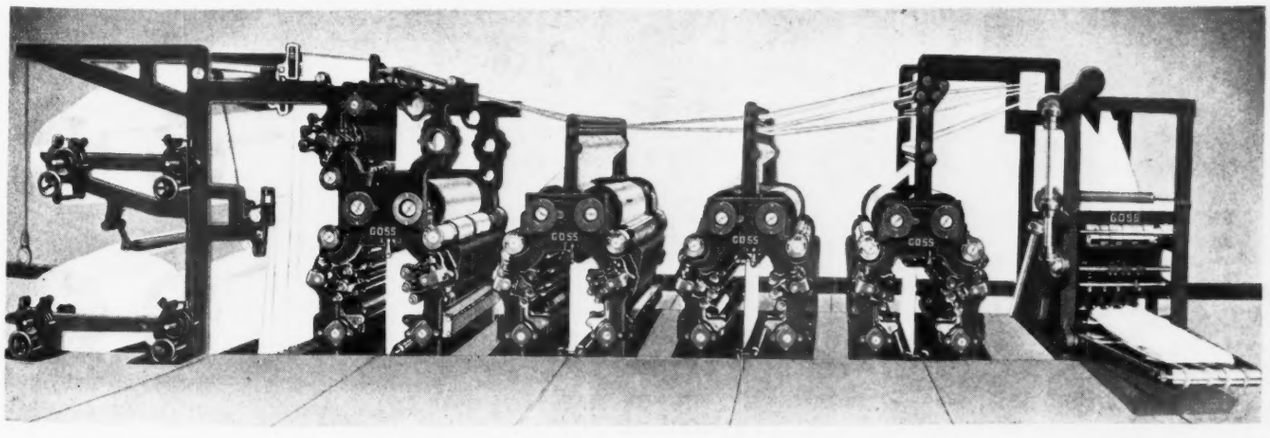
View of Air-Speed Air-Driven Saw and file at work. Can be used wherever compressed air is available. Uses high-speed steel standard size hacksaw blades. Weighs $3\frac{1}{2}$ lbs. Cuts on the backstroke. Adjustable stroke ranges from $\frac{1}{4}$ in. to $1\frac{1}{4}$ in.

Air-Driven Saw and File

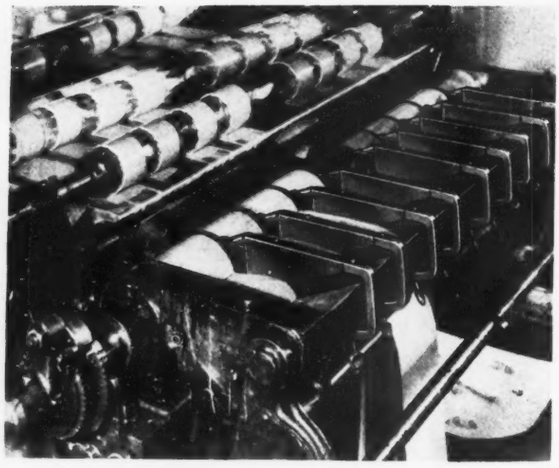
AIR-SPEED, an air operated saw and file uses standard sizes of hack saw blades and files is being distributed by the Air-Speed Tool Company. The Air-Speed Saw and File can be used in awkward or cramped quarters or from difficult working positions. The tool is portable and is ready to use wherever airlines are available.

Weight of the tool is $3\frac{1}{2}$ lbs.; length, without saw blade, $11\frac{1}{2}$ in.; height, from bottom of handle to top of saw, $5\frac{1}{2}$ in. Trigger pressure regulates operating speed. Cutting action is accomplished on the back stroke, making it possible for the operator to use various lengths of high-speed steel hacksaw blades. Regular files of all shapes may be adapted by grinding and fitting the file shank to the chuck of the tool. Cutting stroke is adjustable and ranges from $\frac{1}{4}$ in. to $1\frac{1}{4}$ in. Air pressure of 85 to 100 lbs. is recommended.

The front barrel of the tool can be turned 360 deg. enabling an operator to use the saw in practically any position, and to do circular sawing in metal or woods, difficult "dead-end", keyhole or scroll work.



View of Goss Improved Unitube Press. It is intended for use by medium size newspapers. The press is so constructed that color can be obtained on any or all webs by reversing cylinders, by adding color cylinders at the top of the units, or by a combination of these two methods. Other features of the press are Goss tension plate lockup and continuous feed ink system.



This illustration shows application of nine PMC Flinker Fountain Dividers on a press for simultaneous printing of eight colors.

Rainbow Printing Articles Available

TWO articles embracing the promotional possibilities of Rainbow Fountain and Split Fountain printing, with a comprehensive discussion of the technical problems involved, are available without charge to the printing industry. The author of the articles is W. D. Molitor, of Edward Stern & Co. of Philadelphia. They were written originally for magazine publication.

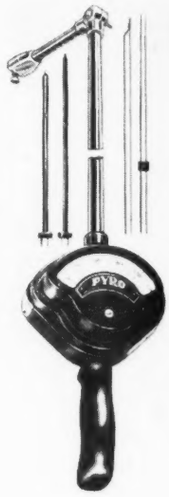
In announcing to the printing trade that reprints of the articles are available, Lee Augustine, vice president of The Printing Machinery Company, said, "We heard so much comment about these articles from printers that we saw an opportunity to perform a service to every concern that might have occasion to do Rainbow or Split Fountain printing.

"We are interested in technical literature on this subject because we manufacture PMC Flinker Fountain Dividers. We also know that users of PMC Flinker Fountain Dividers will appreciate knowing they can obtain reprints of Mr. Molitor's articles."

Reprints of the two articles may be obtained by addressing the Printing Machinery Co., 436 Commercial Square, Cincinnati 2, O.

Pyro Immersion Pyrometer

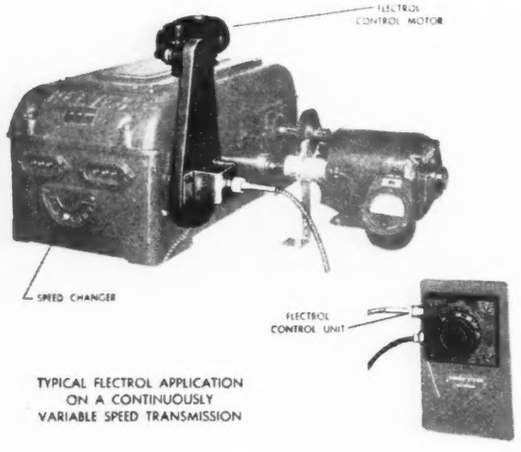
THE PYROMETER INSTRUMENT CO. announces development of a new Pyro Immersion Pyrometer. The new instrument has been especially designed for the non-ferrous industry and in it are embodied numerous improvements which are designed to enhance ruggedness, accuracy and ease of operation. The pyrometer is supplied with a 4¾ in. indicator with a 4 in. direct reading scale. The pyrometer can be supplied with a scale range from 0 deg. to 1500 deg. F., or from 0 deg. to 2500 deg. F. or equivalent Centigrade. Two models with overall length of 27 in. and 43 in. are manufactured, both having a special designed swivel 8 in. from the connector block which permits use of the pyrometer at any angle. The swivel is equipped with toothed notches to prevent it from becoming loose during operation. The instrument can be used with "bare metal" and "protected" type thermocouples, both being instantly interchangeable.



View of Pyrometer Instrument Co.'s new Pyro Immersion Pyrometer, especially designed for the non-ferrous industry. Supplied with two scales, one of which ranges from 0 deg. to 2500 deg. F. Supplied with "bare metal" and "protected" type thermocouples.

The thermo-electric system is constructed with a permanent magnet, low resistance type galvanometer, is fitted with an internal automatic cold end compensator in addition to an external adjusting screw and is enclosed in a shock, moisture and dust-proofed steel case. This housing is designed to afford protection from possible demagnetization or interference from magnetic surroundings.

In a new catalog, No. 150, is illustrated and described the Pyro Immersion Pyrometer in greater detail. A copy is yours for the asking.



TYPICAL ELECTROL APPLICATION ON A CONTINUOUSLY VARIABLE SPEED TRANSMISSION

View of Electrol Remote Control applied to a horizontal enclosed speed changer. At lower right is shown the control unit.

Electrol Remote Control

ELECTROL applied to commercial speed changers provides finger-tip remote control of speed. The dial can be set to any desired speed and the speed changer will follow as fast as the speed adjusting screw can be driven. Exact speed setting is possible and Electrol gives precise indication of the speed to the operator, states manufacturer. The dial can be calibrated in r.p.m., ft. per min., gal. per hr., etc. No other speed indicating devices are required. Any speed within the range of the changer can be selected with an accuracy of better than 2%. In operation, Electrol controls the rotation of the small motor used to adjust the pulleys or gears of the speed changer. Rotation of the speed selector dial causes this motor to drive the adjusting screw until the output speed of the controlled device corresponds to the speed selected on the dial.

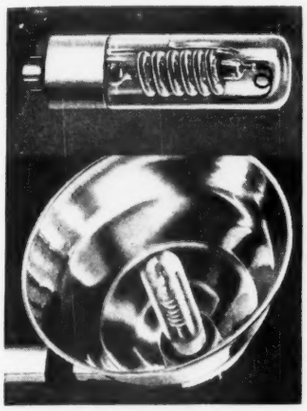
In the illustration is shown the Electrol as applied to a Reeves size 00 horizontal enclosed speed changer. The remote control is applicable to new or existing equipment of any type. Electrol can also be built in or added to motor operated valves, machine tools, printing presses, conveyors and to equipment having motor operated adjustment.

Electrol is a product of the Yardeny Laboratories, Inc.

Repeating Flash Bulb

WABASH CORPORATION has announced a repeating flash bulb that can be used for several thousand individual flashes of daylight quality photographic illumination. Developed in the electronic laboratories of Sylvania Electric Products, Inc., the new flash bulb provides a light output of 12,000,000 peak lumens in an instantaneous flash the

equivalent of 1/5000th second—fifty times faster than the fastest flash bulb manufactured by that company. Preliminary color tests indicate that the color quality of the light is already corrected to approximate that of normal daylight so that no filters will be required for indoor use with daylight type color



Above—View of Wabash repeating flash bulb for use in photography. Below—The bulb in a reflector. Wabash expects to make Electroflash units in three types: (1) Light weight portable for press use; (2) small a.c. portable type for general use, and (3) a model for studio and multiple flash work.

films. Additional color tests now in progress at the Wabash Photo-technical Laboratories will be published shortly.

In appearance the bulb is similar to a projection lamp equipped with a porcelain three-pronged base. Inside the bulb is a Xenon gas-filled coiled glass tubing running between two electrodes. Condensers discharged through this coil provide the illumination.

This is the first of several bulbs of its type which Wabash will make available with its new Electroflash units. The first three types of complete units will include a light weight portable for press use, a small a.c. portable for general use, and a professional model for all studio and multiple flash work.

Opti-Check for Registering Rotary Press Plates

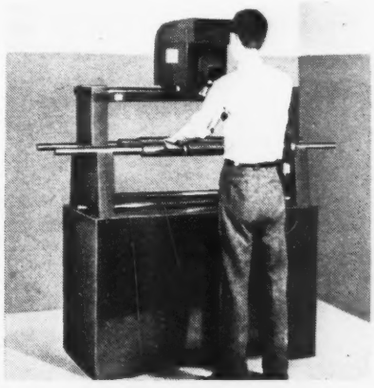
H. H. HEINRICH, INC., has announced a machine, or rather an instrument for pre-registering a set of color plates on the rotary press cylinder. Manufacturer states that while a job is being printed on the press, an operator can set up a complete new job without taking proofs and without measuring with calipers or rule. After the plates have been mounted in the Opti-Chek, the cylinders may be placed in the printing press and production can be started immediately without the necessity of moving any of the plates.

In mounting a set of color plates, the first operation is to place the key plates on the cylinder. This can be done in the Opti-Chek without the use of other measuring devices.

On the Opti-Chek view plates there are mounted cross-lines. Longitudinally across the machine is mounted a graduated steel scale which corresponds to the cross-lines. In mounting the key plates, the pointer is located at 0 or zero on the scale. The operator then looks in the viewing aperature and positions the plates in direct relation to the cross-lines. Now, if the spacing between the plates, for instance, should be 6 in., the Opti-Chek head is moved until the pointer coincides with the 6 in. division on the scale. While looking through the viewer the second plate is mounted in relation to the cross-line, and so on across the cylinder.

Now, if plates are to be mounted around the plate cylinder, for instance, two around, the cylinder must be rotated 180 deg. so that the second set of plates will be positioned directly opposite the first plates. This is done by using the gear at the extreme right of the machine, which is used as the dividing head. Each gear tooth is marked so that the cylinder may be divided circumferentially by 1, 2, 3, 4, 5 or 6. By following these steps any number of plates may be mounted on the cylinder in accordance with the layout.

The second color plates are now ready to be mounted on another press cylinder. The key cylinder upon which the first set of plates has been mounted and registered is placed in bearings at the back of the Opti-Chek machine. The cylinder upon which the second-color plates are to be mounted is placed in bearings in front of the first cylinder. By placing a



second-color plate on the second cylinder, every move can be watched by looking into the viewer at the top of the Opti-Chek machine. Then the second plate is moved until it is superimposed on the key plate on the first cylinder. This superimposition indicates that the color plate is in proper position to register with the key plate on the first cylinder.

After the color plates have been mounted on cylinder No. 2 as outlined above, the color plates for cylinders Nos. 3, 4, 5, 6 or as many sets of plates for which there are colors can be placed in position on their respective cylinders. In these operations, the cylinders are successively placed in the Opti-Chek machine in place of cylinder No. 2. The same successive registration procedure is applied to registering the plates for each color on each cylinder.

Manufacturer states that through the employment of the Opti-Chek machine the time consumed in plating cylinders in register is reduced from hours to minutes over hand operation. Waste of paper or cellophane press down-time and man-hours during makeready time are reduced to the minimum.

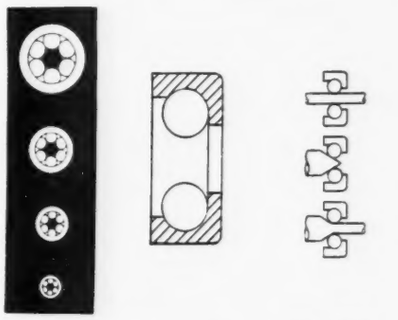
Opti-Chek is made in various widths to accommodate any size multi-color press and any diameter cylinder.

Further information may be secured from H. H. Heinrich, Inc., direct, or through *Printing Equipment Engineer*.

Angular Contact Ball Bearings

ONE of the most versatile little ball bearings yet produced is the angular contact bearing recently announced by Miniature Precision Bearings.

It is illustrated here both in the four actual sizes, and in enlarged cross-



section showing the various methods of using it. No separator is required since the balls are fully self-retained and likewise no cap is necessary. The bearings may be used to take radial or thrust loads or a combination of both. Manufacturer states they function safely and effectively under unusually heavy loads and high speeds for their weight and size, yet respond efficiently in light service. The bearings are made of chrome alloy bearing steel to precision tolerances

Electric motors, scale mechanisms and accelerometers are among the present applications of the bearings. Full specifications are available on request from the makers.

Transitank Fire Extinguishing Unit

DESIGNED to provide broad protection coverage, a new model wheeled portable fire extinguishing unit with 750 lbs. of liquid carbon dioxide capacity has been announced. The unit is the Cardox Transitank, manufactured by Cardox Corporation. A feature of the unit is its extremely high application rate of 300 lbs. of carbon dioxide per min. from a single nozzle. Shielded behind the cooling screen afforded by this mass discharge, states manufacturer, one operator can extinguish a relatively large fire in seconds.

Carbon dioxide is stored in a refrigerated and insulated pressure vessel at a

View of Cardox Transitank portable fire extinguisher. Supplied with tank containing 750 lbs. of liquid carbon dioxide.

constant temperature of approximately 0 deg. F. and 300 lbs. per sq. in. At this temperature, the liquid carbon dioxide yields 47% CO_2 "snow" (finely divided particles of dry ice) when released. This yield of CO_2 snow provides increased cooling effect.

Because of its combination of large capacity and quick mobility, one Transitank can protect numerous hazards involving volatile flammable liquid storage and handling, mixing or processing operations, electrical equipment, spraying, washing, etc. Carbon dioxide is non-damaging, non-contaminating and a non-conductor.

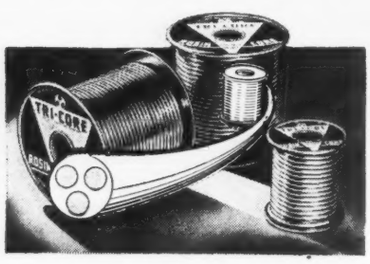
The Transitank is manufactured in three types: an all-purpose, indoor-outdoor unit equipped with pneumatic tires, which may be either hand-propelled or attached by its trailer hitch to any industrial power truck; a steel caster unit designed for extreme maneuverability and close clearances indoors, and a motorized unit. Refilling of the Transitank is by means of Cardox transport trucks, with the liquid carbon dioxide pumped into the unit directly from the truck.

3-Core Solder

TRI-CORE, the solder with three independently filled cores of rosin flux is a development of Alpha Metals, Inc., Brooklyn, N. Y. This product states manufacturer, offers users fast soldering and elimination of dry joints, in addition to substantial savings in tin.

A continuous supply of non-corrosive rosin flux is always present in Tri-Core Solder, as the three cores are completely independent of each other.

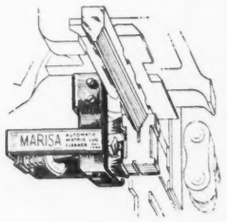
Tri-Core solder exceeds A.S.T.M. Class A specifications and is available in all alloys, all flux percentages and all gauges. Bulletins and engineering test samples are available from Solder Development Division, Alpha Metals, Inc.,



Line-Composing Matrix Lug Cleaner

MARISA ENGINEERING PRODUCTS announces it has a patent pending for an automatic line-composing machine matrix lug cleaner. The device is intended to clean the upper and lower back matrix lugs only as they are pushed into the distributor box from the second elevator bar.

The device is fastened just outside the distributor box. The upper and lower casting-side matrix lugs contact two fine

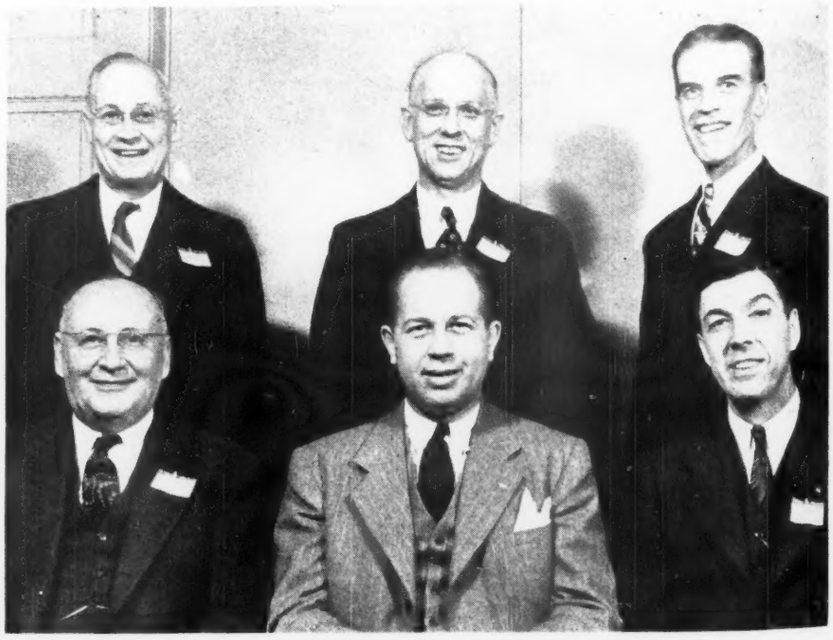


wire bristle brushes held in position by a bracket. Model U fits all Intertype machines and all non-mixer Linotypes. Model LM fits mixer Linotypes. Manufacturer states the fine wire brushes used are specially designed to eliminate damage to the side walls of matrices.

Further information may be obtained from Marisa Engineering Co., direct, or through *Printing Equipment Engineer*.

Gray Issues New Booklet

Planned Reproductions, a guide to advertisers and their agencies is being distributed by James Gray, Inc. Photos and text explain the offset and lettercraft processes in condensed form. Helpful data includes tips on preparing material for offset reproduction, postal hints and a page of proofreaders' marks and their significance. Copies are available upon request to James Gray, Inc., 216 E. 45th St., New York 17, N. Y.



Officers of the Northwest Newspaper Mechanical Conference—Front row (left to right): William C. Brown, Mechanical Superintendent, Minneapolis (Minn.) *Star-Journal* and *Tribune*, Second Vice President; A. E. (Al) Rosene, Mechanical Superintendent, St. Paul (Minn.) *Dispatch* and *Pioneer Press*, President; Joseph Hick, Composing Machinist, St. Cloud (Minn.) *Times*, First Vice President. Second row (left to right): George Curle, Composing Machinist, Minneapolis (Minn.) Member of the Board; Vernon G. Eck, Instructor, Dunwoody Industrial Institute, Minneapolis, Secretary-Treasurer; D. D. Curriden, Minneapolis, Member of the Board.

Fig. 1—In the plant of the Graphic Arts Corporation of Ohio Blue Line Gadi Prints ("blue" prints produced by offset-lith) are printed in quantities ranging from 100 to 500. The process was developed during the war. Here the Vandyke prints submitted by the War Department for quantity reproduction by offset-lith are being inspected and sorted for size. Production of press plates follows usual procedure for making standard plates.

Fig. 2—Here the press plate is being developed in the plant of the Graphic Arts Corporation of Ohio (Toledo). The press plates are paper in place of the usual metallic plate. After development and finishing, the plate is fastened on the cylinder of an offset press for printing. After operators became familiar with the process, paper plates could be attached to the press cylinder and printing was started in a total time of less than 5 min.

BLUE LINE GADI PRINTS *developed during the war by Graphic Arts Corporation of Ohio — Process used to produce "blue" prints in quantity by offset-lith—Interesting description of process*

By HERMAN A. SLATER

DEVELOPED during wartime as an offset-lith process for producing "blue prints" in quantities ranging from 100 to 500 copies, Blue Line Gadi Prints filled an urgent need. They were produced by Graphic Arts Corporation of Ohio for the War Department. The War Department was two years behind in the production of blue prints. The blue prints were needed in connection with repairs on planes and other equipment. Existent photographic equipment could not be made to produce from 100 to 500 prints on the same subject. Ernest Jones, president of the Graphic Arts Corporation of Ohio conceived the idea of producing them on offset presses. His proposal was accepted by the War Department at Wright Field, Dayton, Ohio.

After acceptance of Mr. Jones's proposal to produce blue prints by offset-lith came the several problems of securing building space, equipment and personnel.

A six-story warehouse was located. An entire new heating system was installed. The building was redecorated, offices built, restrooms including new plumbing and many other alterations were made. While this building program was progressing, the labor situation had been studied and an idea hit upon. Why not give lithographic employees who had left that trade for the war plants a chance to return to their own trade and work at their highest skill. After a careful search, a mailing list was compiled and a letter outlining the proposed plan was sent to each one of these people. Consequently, the necessary skilled tradesmen plus general workers to make a total of 500 productive employees were secured.

At least, twelve large offset presses would be necessary. Paper cutters, vacuum frames, registering and layout tables, folding machines and many auxiliary tools were needed. For imprinting the folded prints, a dozen Multigraph machines was decided upon. Platemaking facilities, including whirlers, developing sinks, drying racks and many other items would have to be located. Several new and used equipment manufacturers and dealers were contacted. Manufacturers of new machinery were busily engaged in war work and had nothing available. Dealers' stock had long been depleted so they were of no help.

A contact was made with the E. G. Ryan Co. of Chicago. Mr. Ryan was invited to come to Toledo to discuss the situation. He was told what was needed and asked what could be done. Mr. Ryan returned to Chicago and prepared a circular letter which he mailed all over the United States to learn what equipment was available. The response to this letter produced the 12 offset presses ranging in size from 28 in. by 34 in. to 44 in. by 64 in., six paper cutters, several folding machines, two Ludlows, platemaking equipment and a dozen Multigraph machines to be used for imprinting the prints with 42 pt. type after they were folded to 8½ in. by 11 in. for filing. Very soon machinery began arriving in Toledo and within 60 days the plant was in operation. The production department under the leadership of Bernard Sears was beginning to function, which not only involved the problems of processing but also necessitated the development of intricate systems to keep trace of the thousands of individual drawings.

Blue Line Gadi Prints should not be considered a substitute for blueprints but rather a new development in this field. A Van Dyke (a dark brown "blue" print) of the proposed drawing is submitted by

Ernest Jones, President, Graphic Arts Corporation of Ohio, helped armed forces secure blue prints in quantity.

the War Department. From this point the entire production is handled by Gadi. The planning department lays out the Van Dykes (see Fig. 1) in gangs to conform with the size of presses and platemaking equipment available. After laying out, the Van Dykes are completely encased in an acetate (cellophane) folder for ease in handling and prevention of soilage. The Van Dykes are then placed in the contact printing frame and the paper press plate which has been precoated with a light-sensitive solution and permitted to dry thoroughly, is exposed in the usual manner. After exposure, the plate is developed in somewhat the same manner as the conventional zinc plate. (See Fig. 2.)

The next operation to study was the attaching of plates to the press cylinder in minimum time. Because press runs are only 100 to 500 impressions, the time saved in getting the press started was of utmost importance. After the operators became familiar with the process, the plates were attached to the press cylinders in 20 sec., the plate is dampened in the usual manner and the press started in a total time of less than 5 min. After printing, the forms are cut on conventional paper cutters, folded, imprinted and bundled for shipment to all parts of the world. Persons familiar with blueprint or photostat methods would describe a Blue Line Gadi Print as a "positive"—that is, blue lines on a white background.

The outstanding accomplishment of this project is that peak production was reached within 90 days which made possible a capacity of approx. 8 million Gadi Prints per month.

EXECUTIVE ¶s

Leonard G. Smith, Linotype production engineer has succeeded Doyle Jacobs in Wisconsin and upper Michigan. Mr. Smith served his apprenticeship at the Wisconsin Cuneo Press in Milwaukee, where he later became assistant foreman of the Linotype and composing room. Later he became production manager in the industrial division of the Cramer-Krasselt Company, Milwaukee. Mr. Jacobs is now covering part of metropolitan Chicago for the makers of Linotype.

The Hamilton Manufacturing Co. announces that David A. Walling has returned to the company from the U. S. Army Air Force. Mr. Walling will assist William A. Duboc with sales in the printing equipment division.

David A. Walling returns to Hamilton Manufacturing Co. sales force.

Well known throughout the printing executive fraternity, George F. Morrison customarily does not have callouses on his hands—nor does he have blisters. But the president of the Milwaukee Saw Trimmer Corporation recently acquired both. During February, Mr. Morrison needed some castings to keep his plant operating and 20 employees at work. The firm from which Milwaukee Saw Trimmer purchases its castings could not deliver. The shortage of castings threatened to close down his plant. Morrison phoned one of his suppliers, the Milwaukee Malleable & Gray Iron Works and offered to provide his own manpower to help get out the castings. The man who showed up ready to go to work was George Morrison. Admittedly, he is a novice in foundry work, but he picked up the knack of making molds for the simple little parts needed as well as that of pouring molten metal. The molders watched the new man get the hang of things and assured him he would be eligible to join the union when the 30 day probationary period was up. That invitation convinced Morrison he had "made the grade" as a molder. But when the castings situation eased he quit his foundry job and went back to presidenting his own company. He is grateful to his new friends in the foundry for their help during his three weeks as a molder. Said Morrison: "As a molder I make a swell aviation pilot."

Theodore S. Myers, formerly a chemist at Edgewood Arsenal, Md., has joined the technical staff of Battelle Memorial Institute, Columbus, O. He will be engaged in studies in the graphic arts research division. Mr. Myers is a graduate of Baldwin-Wallace College, and is a member of the American Chemical Society.

Following his release from the U. S Navy, Gordon C. Hall took charge of the L.N.A. Chicago office in February, according to an announcement by W. Floyd Maxwell, executive director of the Lithographers National Association Inc. Mr. Hall succeeds George Benton who joined The Meyercord Co., Chicago, in charge of personnel. Fourteen years as executive vice president of the Associated Printers & Lithographers Assn. in St. Louis makes Mr. Hall well known to many people in the industry in the Mid-West. At Chicago he will supplement the LNA eastern office in all association activities for the membership.

Archibald Reid, in charge of standards in the catalog department of Montgomery Ward & Co., Chicago, died March 9 after a short illness. Mr. Reid joined Wards in 1932. A native of New York State, Mr. Reid was recognized in the trade as one of America's foremost authorities on the printing arts. Services and interment were in New York, N. Y.

Joseph L. Auer has been elected president and a director of R. Hoe & Co., Inc., Bronx, N. Y., printing press manufacturers, the company announced early in March. He succeeds Harold G. Cutright who resigned recently. Mr. Auer, former vice president and general works manager, has been with the company since 1937. He was in full charge of production throughout Hoe's substantial participation in the war effort during which time the company received several commendations from the War Department. In addition to his duties at Hoe, Mr. Auer is a director of the Bronx County Trust Co. and a member of the American Society of Tool Engineers, American Society of Metals, and Bronx Chamber of Commerce. He was born in the Bronx, and educated in Bronx grammar and high schools, supplemented by engineering courses at Columbia and New York Universities, is married to the former Ernestine Lorch. They have two children, Joan and Edmund. The Auers reside at 541 Second Avenue, Pelham, N. Y.

Joseph L. Auer, new president of R. Hoe & Co. Has been with Hoe since 1937.

Fred A. White, well-known in the printing industry throughout the Mid-West, passed away early in March. Mr. White had been associated with the Mergenthaler Linotype Co. for a number of years as northern Ohio area salesman and more recently as district manager. Since his promotion about 15 years ago to the managership he had been making his home in Chicago. After several years of failing health he died unexpectedly in a Chicago hospital, where he had gone for medical examination. He had recently returned from his winter home in Coral Gables, Fla., where his wife, Jane, and his daughter, Alicia, were still staying at the time of his death. Mr. White was buried in Lexington, Ky.

Arthur F. Hermann has been appointed assistant purchasing agent for the Sun Chemical Corp. For the past ten years Mr. Hermann was assistant general manager in charge of manufacturing operations for the Rutherford Machinery Co. Division of Sun Chemical Corp.

Rutherford Machinery Co. Division, Sun Chemical Corp., announces the appointment of Edward G. Schreibeis to the position of assistant general manager. Mr. Schreibeis served as sales manager for Rutherford since 1933. Mr. Schreibeis' experience has given him a wide acquaintanceship in the Graphic Arts industry.

Roderick R. K. Horne, chairman of the board of Smyth-Horne Ltd., London, during a recent visit to Cleveland, renewed old acquaintances and discussed British Graphic Arts requirements with R. V. Mitchell, chairman of the board of Harris-Seybold-Potter. The English executive told Mitchell that the need for lithographic machinery and bindery equipment in the British Isles is even greater than it is in this country. Smyth-Horne is a distributor of Graphic Arts equipment in the United Kingdom and has handled Harris-Seybold products for many years.

Sidney Hollaender, president of the Ever Ready Label Corp., New York, announced the appointment of Herbert Kaufman as assistant to the president. Mr. Kaufman, formerly director of advertising for the General Printing Ink Corp. prior to his acceptance of a commission with the U.S.N.R. two years ago, will direct advertising and sales activities of Ever Ready Label Corp.

Norma - Hoffmann Bearings Corp., Stamford, Conn., announces the appointment of Theodore G. Hughes as factory manager, succeeding P. Butchard, who has been filling the position temporarily. Mr. Hughes was formerly superintendent of SKF Gwynedd Plant No. 4, at Lansdale, Penna.

H. R. Simonds, president and general manager of Simonds Worden White Co., 1101 Negley Place, Dayton, O., announced promotions of three company executives. Nels G. Johnson, who has been with the company since October, 1931, and has been assistant sales manager, is promoted to general sales manager. John H. Allison has been named sales manager of the grinding wheel division. He came to the firm in June, 1931, and has been promoted from salesman. Howard D. Blackburn, who has been the company's advertising manager, will continue in that capacity, but is given the added duties as sales manager of the machine-knife division. He started with the company's sales department in March, 1942. The company is one of Dayton's oldest manufacturers, being established more than 100 years. The original line of L. & I. J. White cleavers and splitters is still a part of the plant's production. Other plants are operated by the company in Cleveland, Buffalo and Beloit, Wis.

Nels G. Johnson promoted to general sales manager at Simonds Worden White Co.

Howard D. Blackburn, advertising manager and sales manager of machine-knife division at SWW Co.

John H. Allison, sales manager of the grinding wheel division at SWW Co.

Edward Blank, formerly of the production planning section of the Government Printing Office, has been appointed planning manager of the Ever Ready Label Corp., 141-155 East 25th St., New York, N. Y. Mr. Blank will coordinate the planning, scheduling, order writing and estimating sections into one operating division.

Elevation of Frank J. Kohut from sales-engineering supervisor to the post of sales manager at The C. M. Kemp Mfg. Co., Baltimore, was announced recently by W. Wallace Kemp, president. Kohut first joined Kemp six months ago to improve and enlarge sales-engineering service to the metal, chemical, oil refining, printing, textile and other industries which utilize the company's systems for process heating, gas generation, and gas and liquid desiccation. Currently Kemp is becoming active in the development of equipment for high-speed ink drying on web magazine presses.

Hand Numbering Machine Catalog

An illustrated catalog of hand numbering machines has been issued by Wm. A. Force & Co., 216 Nichols Ave., Brooklyn 8, N. Y. This catalog, 8½ in. by 11 in. size and consisting of 12 pages, shows the Force line of daters, numbering machines and combination numbering and dating machines used in offices and shipping rooms as well as for production code marking of labels, boxes, etc., by hand. Copies will be gladly sent to all interested parties upon request, either to Force or to *Printing Equipment Engineer*.

Miniature Bearings Bulletin

Miniature Precision Bearings has available an 8½ in. by 11 in. five-page illustrated bulletin in which are described radial, pivot and angular contact series miniature bearings for delicate instruments, in some cases where jewel bearings will not serve the purpose. The new SL radial pivot, thrust and angular contact series are described. These bearings may be used in electronic devices, drive movements of recorders and many other applications. A copy of Bulletin 4b4 will be sent upon request to Miniature Precision Bearings, Keene, N. H.

MATERIALS HANDLING

This book by Harry E. Stocker is of vital interest to mechanical and production executives in printing and publishing plants. While not written specifically as a treatise on materials handling in the printing plant, yet a great deal of its text will be of value in the handling of materials in the plant and outgoing shipments from the plant.

Bound in light buckram, 309 pages, many illustrations, size 6 in. by 9¼ in. Price $5.00 per copy, cash with order.

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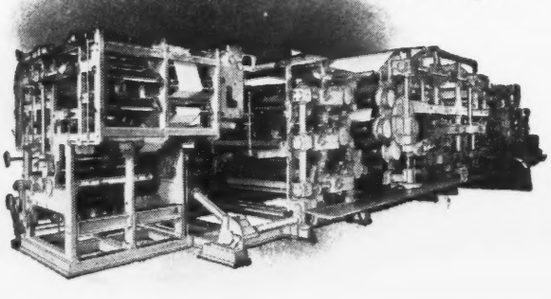

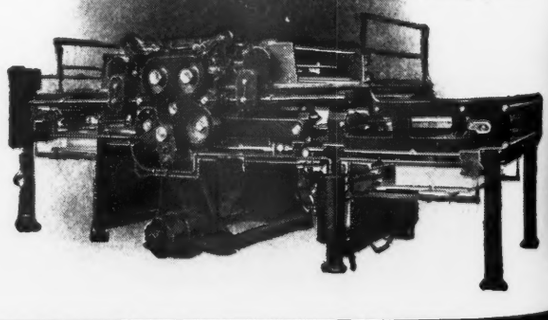

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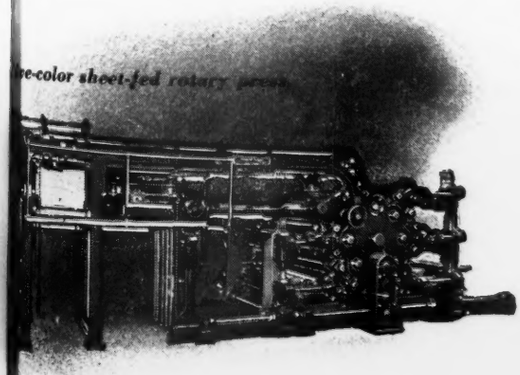

RINTING INDUSTRY!

Distortion *in the stereotype mat—Discussion about causes and effects of distortion in manipulation*

By STAFF WRITER

DISTORTION of the stereotype mat may be described as changing the original relative positions of the printing surface of the type form. This failure occurs in molding when excessive pressure is used, or when the direction of pressure is not vertical at the mat. Uneven pressure and uneven heat in drying the mold set up interferences to natural shrinkage, which may change the relative positions of the printing surface. Binding the stereotype mat during the casting operations is a factor in stereotype mat distortion, and also uneven moisture in the mat before molding.

When greater molding pressure is used than is required to reach the maximum compression of the matrix paper, the excess pressure asserts itself by spreading the paper. Warped chase frames, high side and foot sticks in the chase, and high solid illustrations in the type form are common sources of this condition as all of the spreading stays at the printing level of the mat.

When the upper cylinder of the Stereotype matrix roller is power driven with equal force of the power driven bed, the forces of molding pressure may not be properly synchronized. The "pitch line" of the machine, which is a given distance between the round cylinder and flat bed is necessary to escape different forces of pressure at the mat. The forces of pressure are not synchronized if the forces from above and below the mat are not uniform, or do not meet together at exactly the same place in the mat during rolling in the impression.

Unless molding pressures are synchronized, some method in the use of the molding cushion combination is necessary to compensate, or equalize the different forces to escape friction stresses at the mat. The molding cushions, particularly cork blankets are common offenders of mat distortion. The function of cork, its buoyancy or resiliency is produced by countless numbers of tiny air cells which provide its cushion. Much of the air is expelled under pressure, accounting for the reduction in thickness. Normally, these air cells quickly fill with air again, but some air cells collapse under pressure with each rolling, and cannot be revived. In time the percentage of dead cells renders the cork unfit due to forming spotty areas that unfortunately is not detected by the eye, but causes the force of pressure at the mat to be uneven, creating the friction which due to any cause sets up opposing forces of pressure and result in stretching of the mat, pushing the printing line out of place, inviting the hazard of mat distortion.

Modern types of stereotype mat rollers are designed and equipped to that the forces of pressure between the upper impression cylinder and the molding bed are not equal. The movement of both is controlled by a single force insuring synchronized operation and vertical direction of molding pressure, regardless of the distance provided between the upper cylinder and bed, or the pitch line of the machine provided, however, the molding cushions are satisfactory, and the cylinder and bed are parallel.

Drying and forming the stereotype mat in itself frequently causes distortion. The cellulose fibres in the mat expand when wet, and conversely, contract when drying.

If no interference occurs in the natural shrinkage of the mat in drying the fibres will return to their original shape and size.

Uneven drying temperatures are to be avoided as they interfere with natural shrinkage. Without natural shrinkage distortion naturally ensues. Instead of forced or too high temperature, low or more normal temperature will produce far better results by eliminating uneven or distorted areas in the mat. This is especially true of high shrinkage mats which contain in some cases as much as 25% moisture by weight. The speed of natural contraction of mat fibres is influenced by the characteristics of the compressed area of the printing surface and the uncompressed areas of the spaces which are synchronized by time. Distortion is usually pronounced in cases of forced drying of stereotype mats.

In the absence of adequate temperature control on equipment used for drying and forming of stereotype mats it is advisable to make periodical tests with a plain sheet of newsprint. The newsprint may be placed in the scorcher for the usual drying time, determining approximate temperature by color comparison and also indicating uniformity of drying temperature. Proper temperature regulating the speed of drying and time allowed for natural contraction of the fibres is governed by the percentage of moisture in the mat.

Due to the variables in stereotype mat construction and moisture percentage relation to a given natural skrinkage, any specific reference to time and temperatures for completing natural shrinkage is considered unreliable. Obviously, moderate mat shrinkages offer less hazard in mat distortion than high shrinkage mats. There is a point of moisture percentage in all makes of mat where it is believed advisable to pre-dry with low temperature and pressure, expelling the moisture to within safe limits before placing the mat under drying temperatures for forming the mat, and recommended when pre-drying is used that the mat be reversed, or placed face up in pre-drying if formed face down and vice versa, as an aid in escaping mat distortion.

The proper forming of a stereotype mat requires pressure but frequently the pressure used is so great as to retard full contraction of the mat fibres. So long as pressure is uniform shrinkage loss only occurs, but uneven pressure, like uneven temperature, results in a variation of the degree of contraction over the entire mat area, causing a change in relative position of printing surface with resulting mat distortion.

When the mat fails to form properly in the box the result is an uneven printing surface. The elimination of this difficulty can be accomplished largely by placing mats in the box in such manner that precludes any interference with edges, avoiding carefully any pinching or crowding. Pinching or binding of the mat may result in minute wrinkles or bulges which in addition, due to resulting variation in cooling, will cause honeycombed, porous or spongy plate surfaces and, of course, a distorted or poor reproduction.

Stereotype mats, properly protected and conditioned and of uniformly expanded fibres will lie flat and true over the form for molding. Unfortunately, when mats are not conditioned and afforded proper pre-use protection they will not be perfectly flat for molding and distortion naturally follows.

There appears to be a general idea that stereotype mat distortion may be corrected by "ironing" out. While to a limited extent the mat may respond to this treatment, it is a fact that mat distortion changes the shape and size of the matrix paper. "Crowding" it back merely distributes the dimensional differences over the entire plate. Crowding mat distortion back to the printing line invariably results in low printing edges on the face of the stereotype plate, and distributing dimensional differences platewise results in surface level variations on the face of the plate.

New Jersey Conference

The New Jersey Mechanical Conference and the summer meeting of the New Jersey Press Association will be held at the Traymore Hotel, Atlantic City, N. J., Saturday and Sunday, June 15 and 16.

George W. Holloway is president of the conference. Mr. Holloway's address is P. O. Box 261, Elizabeth, N. J.

Members are invited to bring guests.

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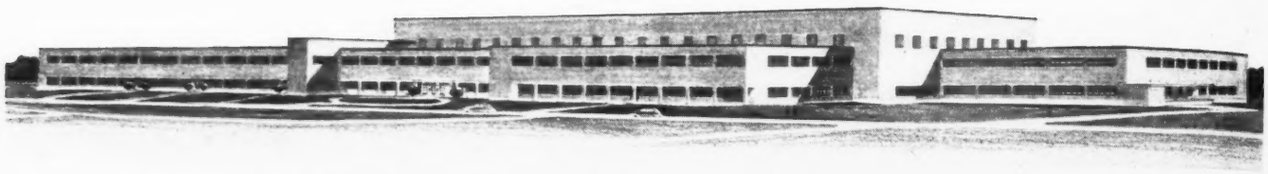

Architect's drawing of Curtis Publishing Company's new plant to be erected in Sharon Hill, just outside of Philadelphia at a cost in excess of $15 million. The first building will be 375 ft. wide and approx. 1200 ft. long. Plant is being built on 100 acre site which will contain parking area for 5000 Curtis workers. Facilities for loading and unloading 50 freight cars a day will be required when the plant starts operating. Ultimately as many as 100 freight cars will be handled at the new plant daily. Stone & Webster Engineering Corporation made preliminary studies and will design and supervise construction of the plant.

Fine New Plant

for Curtis Publishing Company, Sharon Hill, Pa.

THE CURTIS PUBLISHING COMPANY'S new printing plant in Sharon Hill, just outside of Philadelphia, got under way on March 16. When completed and equipped, the plant will cost more than $15 million and will be a thoroughly modern printing establishment.

The initial building will be about 375 ft. wide and approximately 1200 ft. long. It will be built on two levels to accommodate new type presses, and the entire plant will be scientifically designed for the printing, binding, and shipping of magazines. The plant will include adequate power plant facilities for heating and process steam, although it will not provide its own operating power. Some of the printing presses which will be installed in the plant will weigh as much as 600,000 lbs. each. The plant is being built on a 100 acre site, which will contain adequate parking areas for the nearly 5000 Curtis workers who will eventually be located there.

An indication of the size and scope of operations there was found in the statement by Curtis officials that facilities for the loading and unloading of about 50 freight cars a day would be required when the plant starts operations, and that ultimately, as many as 100 freight cars would be handled at the new plant daily.

Stone & Webster Engineering Corporation was retained sometime ago to make preliminary studies and to design and supervise construction of the plant. Contracts for steel, brick and other materials have already been awarded and work will start at once. Curtis officials voiced the hope that limited operation of the plant could start sometime next winter although the first section is not expected to be completed before July, 1947. The printing, binding, and shipping of one of the company's magazines, probably *The Saturday Evening Post*, will eventually be located there.

The new construction will not affect the present editorial, circulation, manufacturing and other operations now going on at the company's traditional location on Independence Square, it was emphasized. Present printing facilities at the Independence Square building have, for some time, been operating at full productive capacity.

Deep in Research

Simultaneously with the inauguration of work on the new plant, Curtis officials revealed that over the past decade the company has spent millions of dollars on research and experimentation to improve the quality of its products. Some of The Curtis Publishing Company's more recent contributions include the initiation and development of the following:

1. Quick-drying inks for letterpress web perfecting two-side printing.
2. The first successful four color web perfecting, two-side, printing presses, at greatly increased speeds.
3. Materials control on plates, paper, ink rollers, glue, etc., for better quality control in mass production printing.
4. High speed binding equipment.

The Company also developed a practical cast-curved printing plate.

During the past year, Curtis officials said, nearly a million dollars had been spent by the company in studies, research, and experiments of all kinds. In addition to manufacturing research, The Curtis Publishing Company, through its Research Department, carries on continuous reader interest studies which seek to measure the appeal of editorial content and thus reduce the area of editorial guesswork. All of these studies, whether dealing with physical or other research, have as their purpose the providing of better magazines for Curtis' readers and advertisers.

Mechanical and production executives are invited to send PRINTING EQUIPMENT ENGINEER *descriptions of mechanical or production aids which they have devised and would be of help to other executives.*

Printing Ink Research To Be Done at Lehigh

The choice of Lehigh University, Bethlehem, Pa., as the site of the Printing Ink Research Institute and the naming of I. M. Bernstein, formerly of H. D. Roosen Co., Brooklyn, as director of research for the Institute, were announced early in March by the National Association of Printing Ink Makers. The Institute's ten point program of research was outlined at the same time.

The Institute's trustees include: Anthony J. Math, of Sinclair & Valentine Co., New York, chairman; Stuart Braznell, Braznell Co., St. Louis; Martin Driscoll, Martin Driscoll & Co., Chicago; Howard Flint, Howard Flint Ink Co., Detroit, and Englebert Smith, Crescent Ink & Color Co., Philadelphia.

The technical advisory committee of the Institute is composed of: James J. Deeney, Bensing Bros. & Deeney, Philadelphia; G. L. Erikson, Braden-Sutphin Ink Co., Cleveland; Benjamin F. Greenwald, Acme Printing Ink Co., Chicago; Albert C. Hentschel, Hill-Hentschel Co., St. Louis, and Nat Rosen of Superior Printing Ink Co., New York.

I. M. Bernstein, director of research for the Institute, which is to be incorporated as a membership corporation under the laws of the State of New York, has been in the printing ink industry for nearly 25 years. Mr. Bernstein successfully obtained five patents related to printing inks and has five patent applications pending. He is currently president of the New York Printing Ink Production Club, and holds memberships in the American Chemical Society, the American Oil Chemists Society, N. Y. Paint & Varnish Production Club, N. Y. Microscopical Society and the Association of Research Directors of Metropolitan New York.

In addition to fundamental research on new types of printing inks the ten point program of research adopted by the Institute will include research on such subjects as relation of inks to printing surfaces, cooperative studies with manufacturers of machinery and equipment in the development of new processes for reproduction and the correlation of research with that of other organizations in the Graphic Arts.

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Room Reservations for Mechanical Conference

AS HAS been announced, the ANPA Mechanical Conference will be held at Hotel William Penn, Pittsburgh, Pa., on Monday, Tuesday and Wednesday, August 5, 6 and 7. The ANPA has reserved sleeping rooms in six Pittsburgh hotels—the William Penn, Roosevelt, Pittsburgher, Henry, Webster Hall and the Schenley. All requests for hotel rooms should be addressed to the ANPA Mechanical Department, 370 Lexington Ave., New York 17, N. Y.

Apparently, the hotel situation in Pittsburgh is similar to that existing in other cities throughout the country. According to report, hotel reservations for the International Printing House Craftsmen's convention in Montreal on September 8, 9, 10 and 11 will be handled by a Hotels Committee rather than through the individual hotels.

NAPE Elects Officers

Otis H. Chidester, Director of the Graphic Arts Department of Tucson Senior High School, Tucson, Ariz., has been elected president of the National Association for Printing Education by the members' mail ballot. Other officers elected were Leroy Brewington, Kansas State Teachers College, Vice President, and Herman A. Slater of American Type Founders, as treasurer. Newly elected members of the Board of Directors are: Charles S. Newman, Rochester, N. Y.; George R. Deuel, Pittsburgh, Pa.; Everett V. Harris, Atlanta, Ga. (re-elected); Edward W. Kurtz, Detroit, Mich.; Harold L. Chesterman, St. Charles, Ill.; Aubrey M. White, Fort Worth, Tex.; Windsor A. Straw, Brookings, So. Dak.; and Selmer O. Wake, Santa Barbara, Calif.

Members of the board who continue in office are: Herbert B. Downs, Newton Hlds, Mass.; Arthur S. Williams, Washington, D. C.; Herman A. Slater, Elizabeth, N. J.; John C. Tranbarger, Terre Haute, Ind.; Ignacio L. Guzman, Tuskegee Institute, Ala.; Leroy Brewington, Pittsburgh, Kas.; and Oscar A. Goetze, Golden, Colo. George R. Deuel is Director of the Student Honor Club activities and Staley Berryman of Evansville, Ind., is the new executive secretary, succeeding Harold G. Crankshaw, past president and executive secretary for the past three years.

Battelle Receives Award

In recognition of "distinguished service to naval ordnance development", Battelle Memorial Institute, Columbus, O., has been presented the Naval Ordnance Development Award by the Navy Bureau of Ordnance. In addition, some 40 members of the Battelle staff have received individual awards from the Bureau of Ordnance for the special parts they played in the prosecution of naval ordnance research.

This award is the fifth of a series presented the Institute in recognition of its war service.

According to Battelle Director Clyde Williams, the Navy award was based specifically on the Institute's contributions to the development of welded net panels for submarine torpedo nets.

Recently, over 200 members of the Institute were presented certificates from the Office of Scientific Research and Development for meritorius contributions to war research projects sponsored by that governmental agency. During the course of the war, Battelle conducted 15 research investigations for the Office of Scientific Research and Development.

The Institute was again honored when it was presented one of the 1945 Awards for Chemical Engineering Achievement.

Pacific Conference

Pacific Newspaper Mechanical Conference will hold a three-day coastwide meeting on Saturday, Sunday and Monday, May 11, 12 and 13. The meeting will be at the Fairmont Hotel on Nob Hill in San Francisco.

Rooms have been reserved at the Fairmont, Mark Hopkins, Sir Francis Drake and St. Francis Hotels to accommodate the out-of-town delegates.

Ira E. Stuck of the San Francisco *Shopping News* is president. Jerry Bolman of the Los Angeles *Shopping News* is secretary-treasurer of the Southern Division. Edward L. Conley of the San Francisco *Chronicle* is secretary-treasurer of the Northern Division.

Photography and Platemaking for Photo-Lithography

by I. H. Sayre

This is both an instruction book and an encyclopedia for offset-lith platemakers. Text in the book serves both as an instruction book for the beginner and as a reference book for the experienced platemaker. This revised edition contains new techniques, procedures and discoveries of methods. A new section on color process platemaking techniques has been Added. Albumin and deep-etched platemaking techniques explained carefully. Every phase of offset-lith platemaking included.

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May be ordered through Printing Equipment Engineer. Because of narrow handling margin, please enclose cash with order.

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MANUAL *of* STEREOTYPING

by JOSEPH D. GOGGIN

In this book, the author discusses the three primary factors in stereotyping — equipment, materials and manipulation. Since the stereotyping process largely is an Art and the results to be obtained in good plate-making are dependent upon the coordination of equipment, materials and manipulation, a reliable guide for securing this coordination is essential.

In preparing this book, the author has drawn upon his extensive practical experience and study in the Art. The all-important preparation of the form from which the mold is to be made and the molding and casting procedures are thoroughly discussed from the standpoint of the peculiar requirements of the process.

A Glossary and Encyclopedia gives definitions of terms used in the stereotype process. Bound in black cloth, gold stamped, 256 pages, size 5½ in. by 8 in. Price, $5, cash with order. Handling margin makes it necessary that cash accompany all orders for books.

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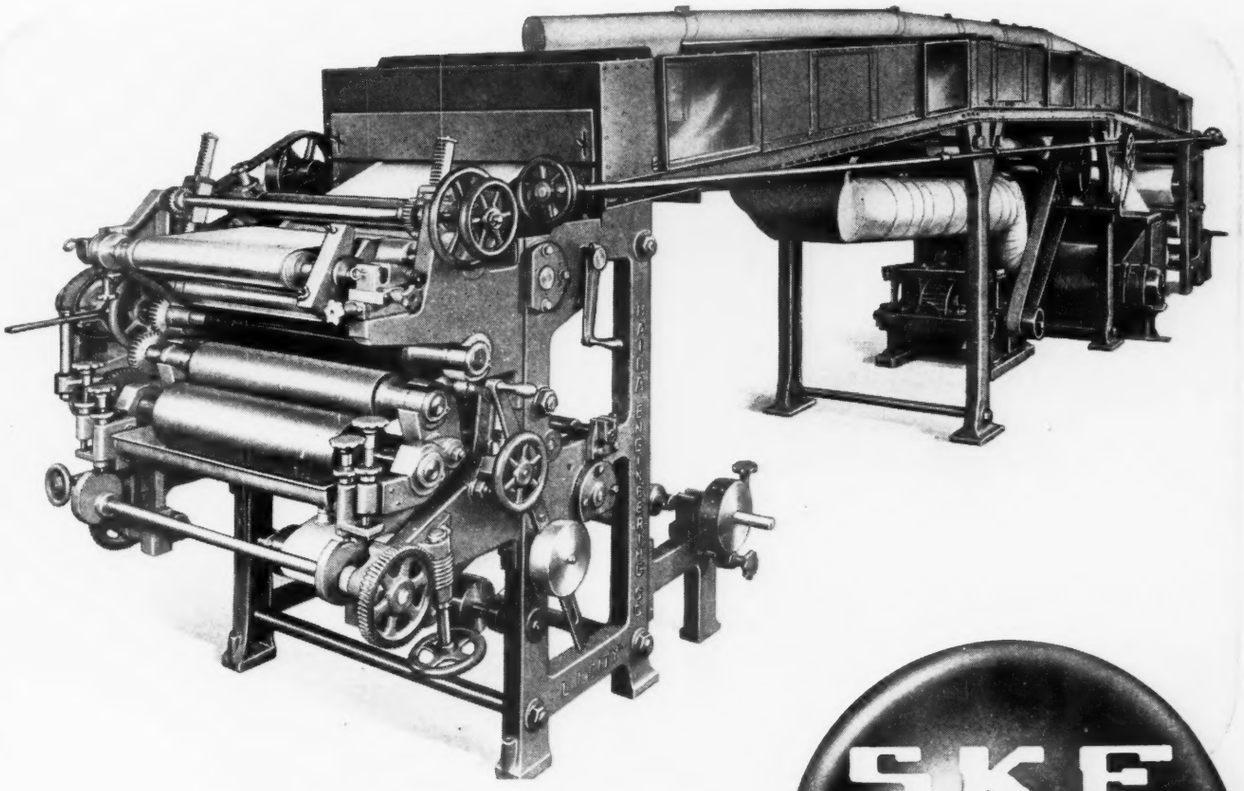

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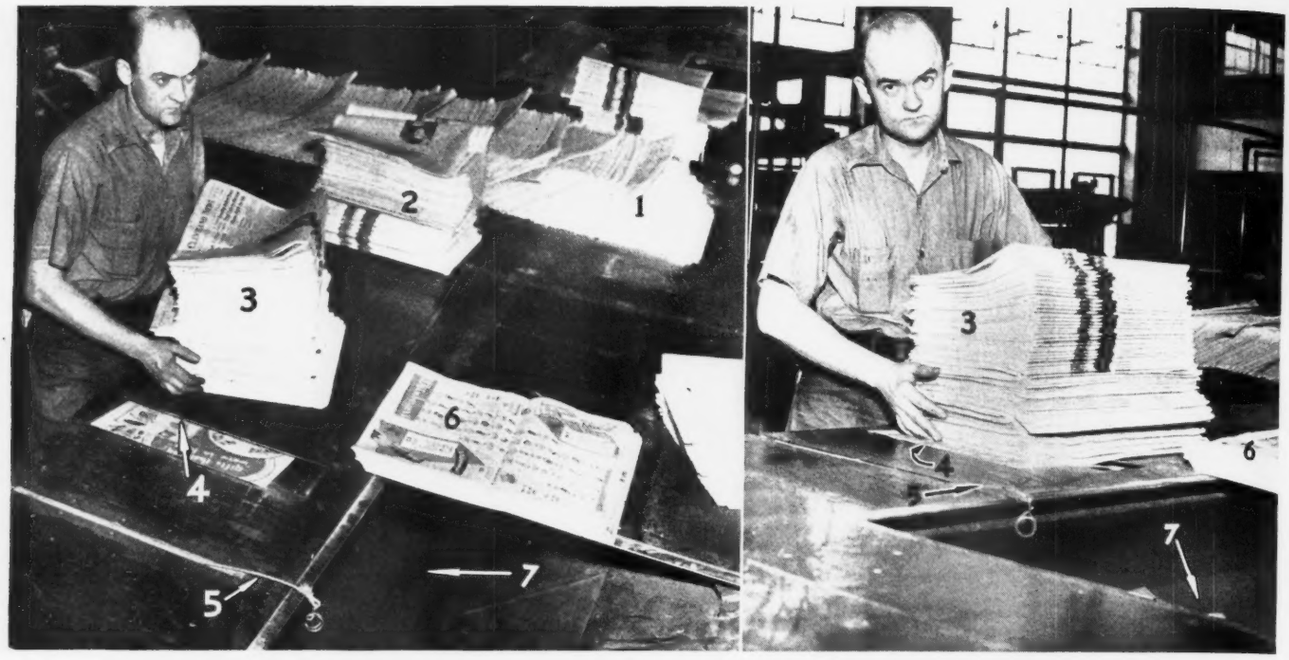

Fig. 1—View of Gneuhs Improved Mailing Bench in plant of Cleveland *News*. The bench has been designed by Mailing Room Foreman Gneuhs to eliminate the lifting of papers in 100 lots which weigh in the neighborhood of 41 lbs. each when the mailer places them in position over the wrapper and rope tie just before bundling them. At the *News*, the entire top surface of the mailing bench is covered with steel plate. The steel plate permits sliding packets of papers easily.

At upper left the papers are being delivered automatically from the conveyor to the mailing bench terminating at *1*. One mailer stands at the right of the bench in front of the papers *1*. He separates the papers into 100-paper lifts. Alternately he pushes the 100-paper lifts to his right and left so that the two mailers can wrap and tie the lifts into bundles.

In explaining how the Gneuhs device saves the labor of raising each lift to place it over a rope and wrapper, we will call your attention to the lift of papers at *2*. The mailer grasps this lift and pulls it toward him, at the same time turning the pile *2* at right angles so that it is in position as shown at *3*. Previously, the mailer has placed one of the bundle wrappers in position in the slot as shown at *4* so that its end projects out upon the top surface of the bench. He has also placed a rope tie *5* in a slot cut in the top surface of the bench. The slot contains an adjustable device so that any length of wrapper can project from the opening.

Fig. 2—Here the mailer is drawing the lift of 100 papers to his right. As the papers are drawn over the projecting end of the wrapper *4* their weight draws the wrapper with it. The mailer continues moving the lift until it is centered over the rope tie *5*. This is done without raising the papers *3*. He then grasps one of the wrappers *6* and places it over the top of the lift and fastens the bundle securely with the tie *5*. His last movement is to push the now tied bundle into the opening where a conveyor belt delivers the bundle to a waiting truck at the end of the belt. Mailers at the Cleveland *News* are highly pleased with Mr. Gneuhs' device inasmuch as much muscular energy is eliminated from their daily work. The bench can be adapted to any kind of bundling.

Gneuhs Improved Mailing Bench Eliminates Lifting Newspapers

IT IS generally conceded that newspaper mailing mechanization is long overdue. Operations in the mailing room are such that they could be done by equipment specially designed for the purpose. Much of the work which should be done by machinery is now performed manually. Mailers are required to perform this work at the expenditure of considerable muscular energy under high pressure conditions.

Straws in the wind indicate that mechanization is in the offing. Some more or less automatic equipment has been available to newspapers for some time, it is true. This equipment, however, does not satisfy the needs of large, small and medium papers because of the different conditions existing in those plants.

One of the mailing room executives who has given considerable thought to the development of equipment to reduce manual exertion in newspaper mailing rooms is Oscar Gneuhs, mailing room foreman of the Cleveland *News*.

At the Great Lakes Newspaper Mechanical Conference held in Cleveland last October, Mr. Gneuhs exhibited a rough model of an improved mailing bench. At that time, he included in the design of his device a slide set in the top of the bench. The slide was operated by a push-button, which when pressed, automatically carried a bundle of 100 papers over a wrapper and rope previously placed in proper position by the mailer. Thos. J. Martin, mailing room superintendent of the Cleveland *Plain Dealer*, explained Mr. Gneuhs' invention to the delegates to the Great Lakes Conference.

Mr. Martin explained that the Gneuhs Improved Mailing Bench is designed to reduce greatly or eliminate entirely the necessity for lifting bundles of papers by the mailer as he receives them from the escalator and wraps and ties them into bundles.

As mailing operations are at present conducted at the Cleveland *News*, one man pulls two 50-paper lifts from the conveyor as they come from the pressroom. He slides the 100-paper lifts alternately to his right and left where they are wrapped and tied by two mailers. By means of the Gneuhs improved mailing bench as shown in the accompanying illustrations, lifting of the papers by the mailers to place them on the wrapper is eliminated entirely. Instead, the mailer only has to slide the bundle over the steel-topped table. Thus, the lifting of 2½ bundles per min., or 3T. of papers per hr. in the case of a 36 page paper is reduced to exactly zero.

Mr. Gneuhs has applied for patent rights on his improved mailing bench which is in daily use at the Cleveland *News*.

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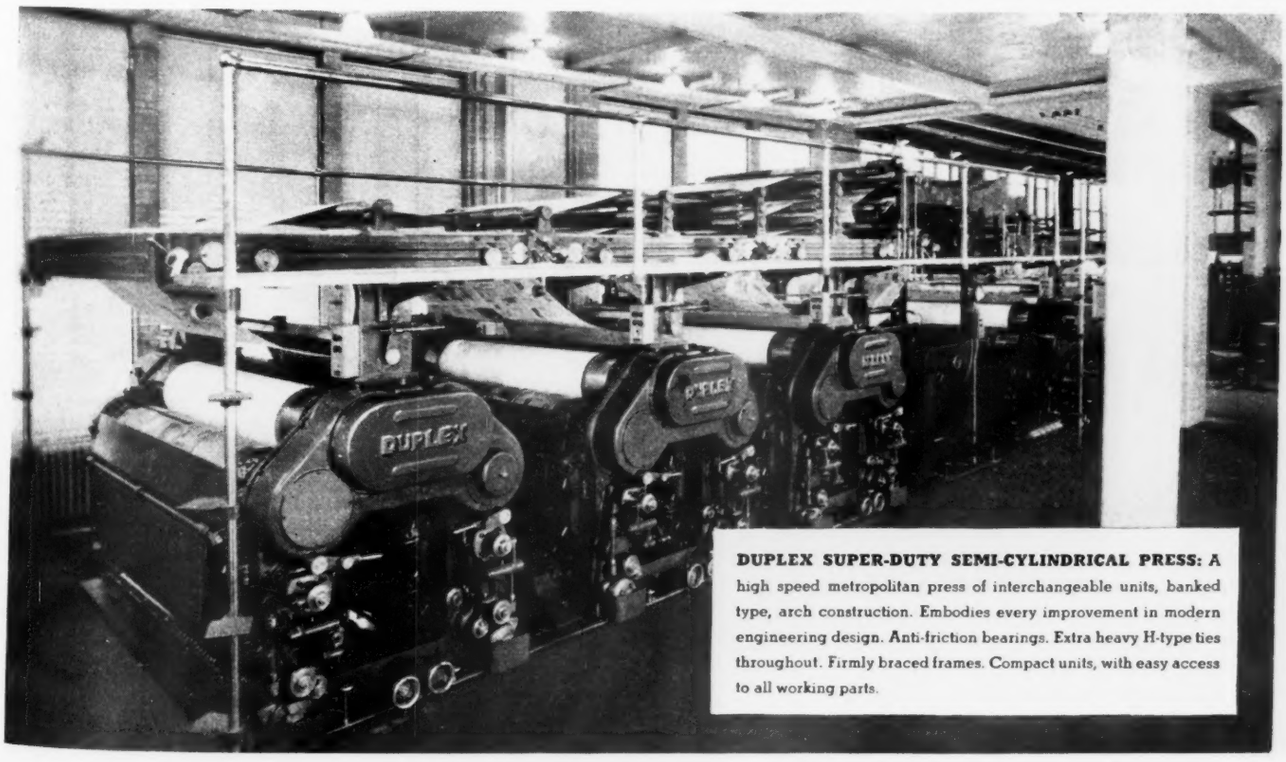

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Meredith Announces Use of First Press For Electro Plastic Molding

MEREDITH PUBLISHING CO. has announced installation of the first plastic molding press designed and built exclusively for plastic molding operations in making electrotypes. The plastic molding process was described in the August 1943 issue and in the September 1943 issue of *Printing Equipment Engineer*. The plastic molding process eliminates the use of wax, graphite or impression lead.

The Meredith Publishing Co., publishers of *Better Homes & Gardens* and *Successful Farming* magazines, have proved the practicability of the method under actual publishing conditions since 1943.

Research at the Battelle Memorial Institute, Columbus, O., uncovered the idea for the molding of plastic plates and the process was developed at the Capital City Printing Plate Co., in Des Moines, members of Printing Plates Research, Inc.

Meredith's is the first publishing company to print a complete magazine from plates made from plastic molds.

Robert Myers of the Capital City Co., who installed the equipment in Meredith's, said the new press makes molds equal if not superior to the finest lead mold.

Vinylite, a special synthetic resin of the thermoplastic type used in the process, is supplied to the molder in 20 in. by 50 in. sheets, 0.030 in. thick.

Compared to other methods of molding, little pressure is necessary with the plastic material. Halftones and type matter can be reproduced without the necessity of special patterns. Myers said cuts mounted on wood, incorporated with type matter are being molded with excellent results.

The molding process begins in a preheating unit which warms the thermoplastic sheet to the proper plasticity for molding; then the sheet and pattern are entered between the press platens and molded. A heat-resisting synthetic molding blanket controls the depth of the impression.

While under pressure, the plastic material cold-sets to a hardened elastic condition for easy removal from the pattern without stretching or distortion, regardless of the fact that no graphite or releasing agent is used. Time-taking operations such as cutting down, flashing and building are eliminated.

If undamaged during the removal of the electrotype shell, these molds can be used repeatedly if more than one electrotype is desired for each original. The Plastic can be reheated and restored to its original condition for future molding.

The surface of the new plastic mold is rendered electro-conductive by applying a thin film of silver with a spray gun. This mixes and sprays two solutions, a silver solution and a reducing solution, at the same time, thereby depositing silver by chemical reduction, eliminating any need for black lead.

After silvering and attaching a contact clamp the mold is ready for the plating tank. Coverage is almost instantaneous, thus insuring a uniform shell thickness with resultant savings in copper or nickel. Automatic temperature and timing devices control the whole process.

Other plastic molding presses now in use have been converted from regular type presses, it is reported, but the one used in Meredith's is the only machine designed and built exclusively for the operation.

Conference Dates

ANPA Mechanical Conference—William Penn Hotel, Pittsburgh, August 5, 6 and 7, 1946. Worth Coutney, Chairman; Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Mechanical Conference—Hotel Claypool, Indianapolis, Ind., October 27, 28 and 29. George Fuller, President, Stereotype Supt., Cleveland *Press;* Al Oberg, Secretary, Comp. Room Supt., Flint (Mich.) *Journal.*

Illinois Newspaper Mechanical Conference—Waukegan, Ill., during the fall. Dates to be announced later. President, Clarence R. Snethen, Superintendent, Waukegan (Ill.) *News-Sun;* Secretary-Treasurer, Howard Colton, Pressroom Foreman, Bloomington (Ill.) *Pantagraph.*

International Association of Printing House Craftsmen—Mount Royal Hotel, Montreal, Canada, Sept. 9, 10, 11. H. Guy Bradley, President, 5480 N. Illinois St., Indianapolis 8, Ind.; Herbert Threlfall, Secretary, 55 Pine St., Providence 3, R. I.

Iowa Newspaper Mechanical Conference—Ft. Des Moines Hotel, Des Moines, Ia., Saturday and Sunday, May 18 and 19. Val Wells, president, c/o Des Moines (Ia.) *Register* and *Tribune.*

Iowa Line-casting Machinists' Association—To be held in conjunction with the Iowa Newspaper Mechanical Conference at Ft. Des Moines Hotel, Des Moines, Ia., Sunday, May 19. Carl Bloomberg, president, c/o Des Moines (Ia.) *Register* and *Tribune.*

LNA Convention—Marlborough-Blenheim Hotel, Atlantic City, N. J., May 14, 15 and 16. W. Floyd Maxwell, Secretary, 420 Lexington Ave., New York 17, N. Y.

New England Daily Newspaper Composing Room Executives' Association—Ellis Hotel, Keene, N. H., May 18 and 19. Ralph Johnson, President, c/o Brockton (Mass.) *Enterprise;* Ray Cox, Vice President, c/o Bangor (Me.) *Daily News.*

New England Mechanical Conference—1946 conference dates to be announced later. George L. Green, President, Providence (R.I.) *Journal;* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

New Jersey Mechanical Conference—Traymore Hotel, Atlantic City, N. J., June 15 and 16. President Geo. W. Holloway, Mechanical Supt., Elizabeth (N.J.) *Journal,* Box 261, Elizabeth, N. J.

Northwest Mechanical Conference—Al Rosene, President, c/o *Dispatch* and *Pioneer Press;* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference—Fairmont Hotel, San Francisco, Calif., May 11, 12 and 13, 1946. President Ira E. Stuck, *Shopping News,* San Francisco; Secretary Northern Div. Edw. N. Conley, San Francisco *Chronicle;* Secretary Southern Div. Jerry Bolman, *Downtown Shopping News,* Los Angeles.

PNPA Newspaper Mechanical Conference—Wm. N. Hardy, Mgr., Pennsylvania Newspaper Publishers' Assoc., 209 Telegraph Bldg., Harrisburg, Pa.

SNPA (Eastern Div.) Mechanical Conference—Exact dates to be announced later. C. Frank Mann, Chairman of the Mechanical Committee, c/o *Courier-Journal* and *Times,* Louisville, Ky.; Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn.

New England Typo Unions Meet in Conference

The New England Conference of Typographical Unions will be held at Hotel Bond, Hartford, Conn., on June 23, 24, 25. This will be the first conference of this organization to have been held since the start of the war. An apprentice ad-setting contest will be one of the features. The conference committee consists of David Ellis, William Donovan, Edward Johnson, Arthur Bregoli and Ralph Del Gandio. Mr. Begoli's address is 133 Enfield St., Hartford, Conn.

Patents

For The Graphic Arts Field

The patents reported here are those issued on February 19, February 26, March 5, March 12.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

No new patents for this classification have been issued in the four weeks covered by this report.

Composing Room Equipment:

DESIGNS 143,994; 143,995; 143,996. ORNAMENTAL DESIGNS FOR THREE NEW FONTS OF TYPE, the first two of which include not only upper and lower case and numbers, but also additional characters with accent marks for the lower case necessary for printing in French and other languages. Of these two fonts, the first is italic and the second is a bold face sans-serif. The third font of type consists of ornamental capitals, only, that have very fine decorative white lines inside the bolder portions of uprights and diagonals. Invented by Charles E. Riddiford, Washington, D. C. Assigned to the National Geographic Society, Washington, D. C. Application for all three patents, July 23, 1945. Terms of 14 years, each.

Feeding, Folding and Delivery:

2,395,444 and 2,395,445. MECHANISM FOR CORRECTING FAULTY FRONT REGISTERING of a sheet on a cylinder of a printing press while the sheet is moving with the cylinder. In patent 2,395,444, grippers on the cylinder hold a sheet presented to it, and a cam is rendered effective by rotation of the cylinder for momentarily reopening the grippers to release the front edge of the sheet while the sheet is traveling with the cylinder. The sheet is held to the cylinder by suction while the grippers are reopened. A front registry face is carried by the cylinder. The cam controlled means, rendered operative by rotation of the cylinder, brings the front registry face and the front edge of sheet into engagement. This is so timed with relation to the cam for momentarily reopening the grippers that engagement between the front registry face and the front edge of the sheet takes place during the interval the grippers are reopened. In patent 2,395,445, the application for which was a division of that for 2,395,444, the cylinder-carried registry face is movable with respect to the cylinder and the sheet on it instead of there being a fixed abutment on the cylinder serving as the front registry face. Invented by Frank R. Belluche, Racine, Wisconsin. Assigned to The Christensen Machine Company, Racine, Wisconsin. Original application May 31, 1943. Divided and application for the second patent February 5, 1945. 15 and 8 claims, respectively.

2,395,490. SHEET-FEEDING-AND-MARKING METHOD and machine for printing presses provided with traveling carriages of the "drop-delivery" type. The sheets so delivered are stacked and marked from the front, or even end, of the stack, avoiding inconveniences previously caused when markers were inserted at end of stack nearest the press, which end is uneven if different-length sheets are being delivered. Sheets are fed with the head ends disposed forward in the direction of feed, each from one position to a second position, over a support, and are deposited and stacked at the second position, the underface of each sheet being in face-to-face contact with the upper face of the previously fed sheet. A mechanism controlled by a sheet counter inserts marking tags between bundles of a predetermined number of sheets. Invented by Louis Landaff Matthews, Westerly, Rhode Island. Assigned to Maxon Automatic Machinery Company, Westerly, Rhode Island. Application July 21, 1941. 7 claims.

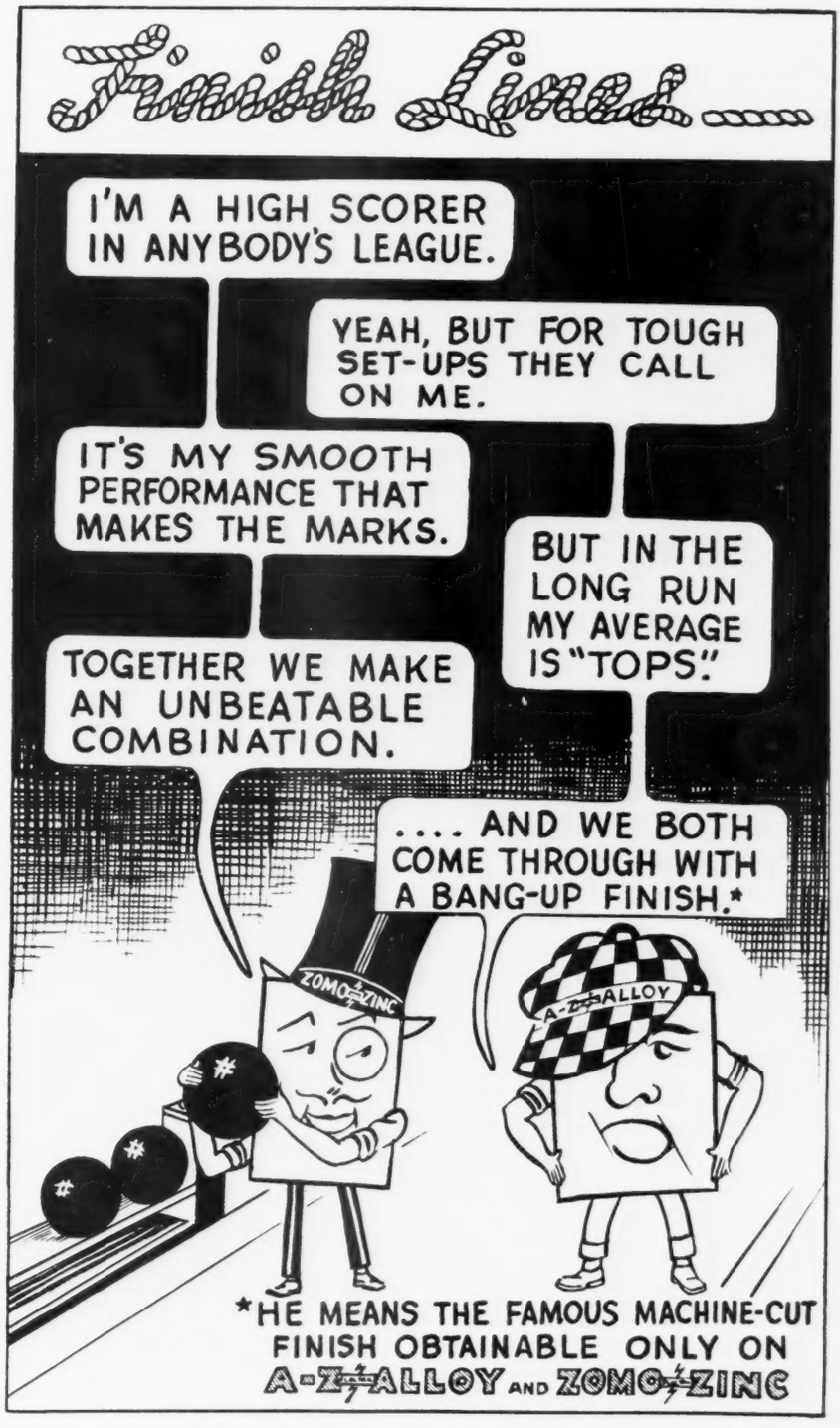
2,395,644. APPARATUS FOR SEPARATING SHEETS FROM A PILE preparatory to feeding the sheets to a printing or like machine. The apparatus which may be arranged to operate on any convenient part of the sheet pile, features a rotatable combing wheel to form a wave in the sheet, a movable support on which the combing wheel is mounted, and a driving mechanism. This mechanism effects movement of the support towards and away from the pile, and on completion of a movement of the support effects rotation of the combing wheel through frictional contact with the sheet pile. Invented by Tom Rowlands, Altrincham, England. Assigned to Linotype and Machinery Limited, Great Britain. Application February 1, 1944. 11 claims.

2,395,950. MECHANISMS FOR SLITTING WEBS in newspaper or like printing presses. These mechanisms are arranged one after the other in the course of travel of the webs proceeding from the press, and at least one comprises a stationary supporting member on which a slitter support is slidably mounted. A slitter assembly on the support includes uprights on opposite sides of the web position. The slidable support may be moved on the stationary member, thereby adjusting the position of the slitter assembly as a unit with respect to the other slitter mechanism. Invented by Otto R. Wolf, Oak Park, Illinois. Assigned to Tribune Company, Chicago, Illinois. Application April 22, 1942. 8 claims.

2,395,983. IMPROVED MANIFOLDING, COLLATING, AND FOLDING MACHINE, in which a number of paper webs are aligned and creased within one portion of the machine and are folded within a second portion so that the folded web pack is arranged in fan-fold or accordion fashion and is discharged upon a table adjacent the folding apparatus. The receiving surface of the table moves with respect to the folding apparatus to receive the fan-folded pack at the rate it is discharged from the folding machine. The paper passes through the aligning mechanism in a vertical movement and thereafter is folded into the accordion-type folded pack in a horizontal direction. Invented by Clayton E. Wyrick, Miami, Florida. Assigned to The Egry Register Company, Dayton, Ohio. Application July 20, 1942. 4 claims.

2,396,240. SHEET FEEDER FOR CARDBOARD used in conjunction with printing machines of the type in which the sheets are fanned out and advanced in a bank to a feed-off position. This sheet feeder is designed to obviate irregular offset between sheets of cardboard. The foremost sheets of the bank are jogged into a pile so that the rear edges of the sheets always occupy a predetermined position with relation to the feed-off mechanism. The bank advancing mechanism, including a feeler bar which feels the height of the pile, is controlled from the height of the pile into which the foremost sheets of the bank are jogged. Invented by Frank R. Belluche, Racine, Wisconsin.

(*Continued on Next Page*)


Finish Line....
I'M A HIGH SCORER IN ANYBODY'S LEAGUE.
YEAH, BUT FOR TOUGH SET-UPS THEY CALL ON ME.
IT'S MY SMOOTH PERFORMANCE THAT MAKES THE MARKS.
BUT IN THE LONG RUN MY AVERAGE IS "TOPS."
TOGETHER WE MAKE AN UNBEATABLE COMBINATION.
.... AND WE BOTH COME THROUGH WITH A BANG-UP FINISH.*
ZOMO-ZINC
A-Z ALLOY
*HE MEANS THE FAMOUS MACHINE-CUT FINISH OBTAINABLE ONLY ON A-Z ALLOY AND ZOMO-ZINC

Assigned to The Christensen Machine Company, Racine, Wisconsin. Application October 31, 1942. 1 claim.

2,396,390. SHEET REGISTER OPERATING MECHANISM for printing press platens which have oscillatory movement. The registry device may be operated independent of the movement of the platen, is adjustable for movement varying in both amplitude and direction, and may be rendered entirely inoperative in case no special registering operation is required. The device consists of a sheet receiving and carrying mechanism mounted for oscillatory movement adjacent the edge of the platen, variable throw member at the end of the platen, and an adjustable rocker. The entire device is connected with the main drive of the press independent of the platen. Invented by Charles F. Root, Cleveland, Ohio. Assigned to The Chandler & Price Company, Cleveland, Ohio. Application September 29, 1942. 14 claims.

2,396,481. SHEET FEEDING AND GAUGING DEVICE in the form of constantly driven rollers moving at a speed comparable with that at which the sheets are moving, eliminating drag upon the sheets. A spring acting upon the gauging roller causes a sheet of greater than standard width to buckle. Gauging mechanism includes a pair of gears journalled adjacent the lateral edges of a feed table. A lever is mounted concentrically with the axis of each gear, a roller being carried at the free end of each lever. Rollers are driven from the gears. Cams, connected with lever, rotate with each gear whereby the rollers will be periodically moved toward each other. One cam is of such contour as to prevent movement of its associated roller away from the other roller and the other cam is of a contour to permit its associated roller to move away from the first roller. A limited return stroke makes possible the handling of sheets in a continuous stream, and a resiliently mounted feeding device contacts the gripping devices without being bent so sheets of very light material can thus be handled. Invented by Eibe A. Wilekens and Ellis M. Magill, Baltimore, Maryland. Assigned to Crown Cork & Seal Company, Inc., Baltimore, Maryland. Application January 2, 1943. 25 claims.

Miscellaneous:

2,395,185. LUMINESCENT DIALS are produced by applying a base to a filled dull-black vinylite resin surface by a screening operation using 160 mesh Swiss silk. One silk screen ink includes an alkyd resin, China-wood oil, cobalt naphthenate, manganese naphthenate and balance xylene. Luminescent zinc-cadmium sulphide and zinc stearate are added. The new process is said to be superior in the production of luminescent dials and the like, in that hand painting methods are not satisfactory from a production standpoint and former printing methods have reduced legibility especially under ultra-violet light. Invented by Sampson Isenberg and Rudolph Hultgren, Chicago, Illinois. Assigned to General Luminescent Corporation, Chicago, Illinois. Application August 13, 1942. 1 claim.

2,395,419. PRESSURE SENSITIVE SHEET, FILM OR TAPE having a lecithin coating on one side and a tacky adhesive on the other. Stacks or rolls of this sheet, film, or tape are readily separated into individual sheets or unrolled without tearing, transfering the adhesive, and without decreasing tackiness. It is possible to reverse-print with a printing ink on a film coated with lecithin by passing the film along with another sheet or fabric through heated rolls to transfer the printing to the sheet or fabric. The pressure sensitive sheet, film, or tape is produced on a base of regenerated cellulose by coating one side with an adhesive, and the other side with a composition containing essentially an aminophosphatide. Invented by James A. Mitchell, Kenmore, New York. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application May 29, 1943. 14 claims.

Plate Making:

2,395,448. METHOD OF MAKING METALLIC SCREEN STENCILS by photographic processes. A screen of stainless steel has its interstices at least partially filled by an intimately joined layer of tin. A colloidal resist is applied to a portion of the area of the plate and an etchant absorber is applied to the areas of the plate not protected by the resist. Resist is inked with a greasy ink and plate is subjected to the action of a reagent adapted to dissolve metal from the interstices of the screen without substantially attacking the metal of the screen and the resist. Metal is thus dissolved from the interstices of screen without dissolving the screen. A deep etch, say to ten thousandths of an inch, is possible in only a few minutes of etching. Invented by Joseph B. Brennan and Emma Leona Marsh, Euclid, Ohio. Assigned to Joseph B. Brennan, Euclid, Ohio. Application October 11, 1941. 7 claims.

2,395,985. HALFTONE HIGHLIGHT PROCESS that produces a halftone screen negative of any desired copy, such as an artist's wash drawing, pen drawing, or photograph, in which negative the dot structure in any desired highlight areas may be substantially or completely closed to produce a dotless highlight. The high light areas of the photoengraver's copy is treated with a fluorescent material adapted to emit an actinic light on the high-light areas. The exposure is made by ordinary light through a photoengraver's halftone screen. Then the copy is irradiated. The visible light emitted from the fluorescent material on the high lights is used to close the highlight dots on the screen negative by prolonged exposure of the areas. Invented by Burtt L. Berry, San Francisco, California. Assigned to Burtt L. Berry, Victorville, California and Lyle P. Youngdahl, San Francisco, California. Application July 2, 1941. 18 claims.

2,395,986. HALFTONE DROP-OUT PROCESS which, in a different manner, obtains similar result to the process of the preceding patent, i.e., produces drop-out highlight halftone screen negatives. The high light dots are closed on the negative by overexposure of the highlight areas on the copy. Instead of treating only the highlight areas of the copy with a fluorescent material, in this process the photo-engraver's copy is made upon a sheet of paper, artist's board, etc., after it has first been given a wash or substratum of a fluorescent material over its entire surface. The areas intended to be dark are more or less covered with the paint or other artist's media which masks or blocks out the substratum or active layer, leaving the high lights represented by the base fluorescent layer where it is desired to be pure white or dotless in the final halftone. Invented by Burtt L. Berry, San Francisco, California. Assigned to Burtt L. Berry, Victorville, California and Lyle P. Youngdahl, San Francisco, California. Application July 2, 1941. 12 claims.

Printing Inks and Related Chemicals:

2,395,117. PREPARATION OF DYESTUFFS OF THE PHTHALOCYANINE SERIES widely used as pigments for printing ink, paints, and other pigmented compositions. This new compound of the phthalocyanine series is characterized by the presence of at least one thiocyano group (SCN) as a substituent for hydrogen in its arylene nuclei. Invented by Norman Hulton Haddock, Blackley, Manchester, England. Assigned to Imperial Chemical Industries Limited, Great Britain. Application April 12, 1943. 6 claims.

2,395,278. TREATMENT OF ABIETYL COMPOUNDS such as rosin and other related materials so they are more stable and are improved for use in printing inks, lubricants, and are fitted for use as plasticizers and extenders in cellulose ester and other compositions, in natural and synthetic rubbers, and in coating compositions and plastics. Process involves heating the rosin to an elevated temperature while subjecting it to the action of sulfur dioxide. Invented by Nicholas L. Kalman, Rutherford,

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Repair of Scored Cylinders*

By C. W. HARROLD, Chief Engineer, Harris Division, Harris-Seybold-Potter Co., Cleveland, Ohio

SCORED cylinders, one of the major pressroom nuisances, can be repaired easily and quickly by using cast-iron solder to fill up the groove and return the cylinder surface to a perfect contour. Use of cast-iron solder on damaged cylinders is not a new development, yet this method is not widely used in offset pressrooms.

Foreign objects, such as screws, nails and pieces of metal, occasionally find their way into a press despite the extreme care exercised by the operator. The resulting damage to the cylinder, however slight, impairs the efficiency of the press to a great extent.

In many cases when the cylinder has been scored by a foreign object, the cylinder has to be removed from the press to make the necessary minor repairs. This loss of time can often be avoided, for the cylinder need not be removed from the press to make these repairs when the cast-iron solder method is used. The cylinder usually can be repaired and the run continued within two hours. However, this method cannot be used when the cylinder wall has been crushed to such an extent that the cylinder is not in perfect alignment.

To repair a cylinder that has been dented slightly or scored, a large soldering iron, heated to a dull red, should be used. The cast-iron solder is applied in the same manner as tin solder, but the soldering iron must be kept at a much higher temperature throughout the operation.

The flux used in this cast-iron solder method is made by dissolving blue vitriol in water and adding muriatic acid; three parts of blue vitriol solution to one part of muriatic acid.

The recommended procedure to be followed in repairing the cylinder is as follows: first, clean the surface to be soldered with fine emery cloth and gasoline, removing all oil rust. Then apply the flux with a brush so that the surface is plated with copper or has a reddish color.

The cast-iron solder, which does not run like tin solder, will form a paste when heated. This paste is then pressed into the dent or groove with the soldering iron and the area to be repaired is built up until it is a little higher than the cylinder surface itself. The next step is to file or scrape excess solder off the cylinder until its contour is again perfect. Extreme caution should be exercised while filing away the excess solder so that the surrounding cylinder surface is not accidentally scraped or gouged. The press is now ready to produce high-quality work again.

Proper care of the cylinders can prevent many malfunctions. Cylinder surfaces, plate clamps and gears should be cleaned regularly and careful lubrication should become a standard practice.

*EDITOR'S NOTE—Printed by permission of HARRIS IMPRESSIONS, February 1946 issue, published by Harris-Seybold-Potter Co. While this article was written for offset-lith printers, it will be of value to all printing executives who have experienced damaged press cylinders.

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VULCAN Press Blankets help you come out on time—every time, by reducing pressroom delays. Thanks to VULCAN'S 36 years of never-ending research, these improved press blankets offer the utmost in proper resiliency . . . freedom from excessive stretching . . . resistance to surface abrasions . . .

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"Hold the phone!" or "I'll call you back!" and up jumps a printing executive to act as a job chaser.

A leading lithographer, engraver, printer, binder (name on request) discovered that printing, itself, is a streamlined intercommunication system (a means of transmitting thought without conversation). He applied the principle, internally. It eliminated walk-and-talk supervision. It telescoped shop, office and customers to the compactness of an up-to-the-minute work progress board.

Central Control Board

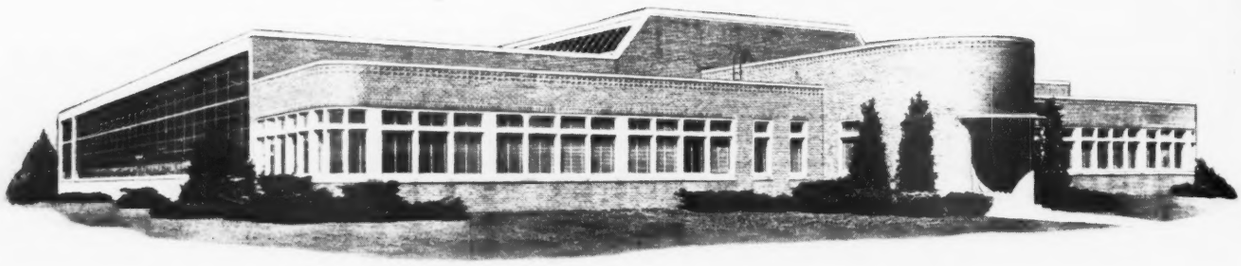
TEMPORATOR
CENTRALIZED PRINTING PLANT CONTROL

is voiceless, visible signal dialing intercommunication control. It is incredibly fast because it eliminates leg work, paper work and **prohibits conversation.** Work progress reports are dialed, direct from employes, the instant each operation is completed. Detection of unproductive man and machine hours permits better planning and scheduling. Delivery dates for both old and new orders are instantly available. Paper inventories, receiving, shipping, billing are under instant control. The finger of management is kept on the pulse of the entire plant.

The facts about Temporator are yours for the asking. Write Temporator Division, Simplex Time Recorder Co., 70 Lincoln St., Gardner, Mass.

A Sub-Station Dispatcher

ORIGINATORS OF TIME-KEEPING EQUIPMENT



The E. F. Schmidt Company of Milwaukee, creative advertising printers and lithographers, have purchased the modern 1-story air conditioned McCulloch Engineering plant on Capitol Drive between 34th and 35th Streets in Milwaukee. The move was made to provide adequate quarters for the firm's expanded volume and to house new equipment on order since before the war, according to E. F. Schmidt, president, who pointed out that the 7 acres of buildings and grounds will assure the utmost in efficient plant operation.

New Jersey. Assigned to Ridbo Laboratories, Inc., Paterson, New Jersey. Application July 3, 1943. 7 claims.

2,395,452. CARBOXYLIC ESTERS OF HYDROXYDIHYDRONORPOLYCYCLOPENTADIENES, useful in printing inks, which have the acyl group attached through oxygen to one terminal cycle and a double bond in the opposite terminal cycle. Method of preparing comprises reacting by addition and rearrangement an organic carboxylic acid and a crystalline polycyclopentadiene having two double bonds and one to four endomethylene cycles per molecule at a temperature below the depolymerization temperature of polycyclopentadiene in the presence of an acidic catalyst which does not act as an oxidizing agent during the reaction. Invented by Herman A. Bruson, Philadelphia, Pennsylvania. Assigned to The Resinous Products & Chemical Company, Philadelphia, Pennsylvania. Application February 20, 1943. 17 claims.

2,395,550. MODIFIED ALKYD RESIN which is useful as a clear, durable, air-drying coating for paper. Composition comprises a fatty oil modified alkyd resin and an ester of a polysilicic acid and a lower monohydric saturated aliphatic alcohol having a boiling point below 200° C. The amount corresponds to 5% to 35% of SiO_2 based on the weight of the alkyd resin dispersed in a common solvent for the alkyd resin and the ester. The polysilicic acid ester contains unesterified silicic acid hydroxyl groups. Invented by Ralph K. Iler, Cleveland Heights, Ohio, George H. Latham, Wilmington, Delaware, and John W. Robinson, Lakewood, Ohio. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application September 30, 1942. 9 claims.

2,395,581. PRODUCT OF A MODIFIED VINYL CHLORIDE-FUMARIC ESTER COPOLYMER which is a good clear, flexible and resistant coating for paper. A copolymer of vinyl chloride and a neutral ester of a saturated alcohol and fumaric acid are modified with an alkoxyalkyl ester of an aliphatic dicarboxylic acid containing 4 to 10 carbon atoms. The composition is resistant to cracking at a temperature of minus 50° C. Pigments may be added. Invented by Henry John Richter, Wilmington, Delaware. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application November 12, 1942. 9 claims.

2,395,654. DAMPENER FOR LITHOGRAPHIC PRINTING or graining. The composition comprises a solution of water, ammonium dichromate, gum arabic and a wetting agent having penetrability relatively greater than water. Invented by Thomas Peter Brannigan, Gordon Harold Raison, and William Henry Yoder, Detroit, Michigan. Assigned to General Motors Corporation, Detroit, Michigan. Application June 30, 1941. 13 claims.

2,395,739. RESINOUS MATERIALS for use in inks, in coating compositions for metal, as a waterproofing, in adhesives or in compounding rubber. The resin is produced by reacting an aromate hydrocarbon with an aldehyde and a compound from the group consisting of polycarboxylic acids in the presence of a condensing agent, at a temperature productive of the condensation of the aromatic hydrocarbon, aldehyde, and the compound selected from the group. Inventor Arthur B. Hersberger, Lansdowne, Pennsylvania. Assigned to The Atlantic Refining Company, Philadelphia, Pennsylvania. Application May 3, 1941. 18 claims.

2,396,129. NON-SPEWING NITROCELLULOSE PLASTICIZER, which is also usable as a plasticizer for ethyl cellulose and synthetic resins compatible therewith. Coatings employing the non-spewing plasticizer are particularly useful for the fabrics supplied to bookbinders for book covers. Such fabric may also be impregnated rather than coated. In addition, such coatings may be applied to wood, metal, paper, non-woven fabrics, outdoor furniture upholstery, lacquered table cloths and coated fabrics. The composition consists of the reaction product of corn oil blown to a viscosity of 35 to 50 seconds (Gardner-Holdt Scale) and material selected from the group consisting of phthalic acid, maleic acid, and their anhydrides. Invented by Ernest A. Rodman, Newburgh, New York. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application March 25, 1942. 15 claims.

2,396,275. POLYMERIC QUATERNARY AMMONIUM DYE INTERMEDIATES. The dyes of this compound may be converted into insoluble azo pigments for use in printing inks, although the patent deals primarily with processes of color photography and compositions and elements. As an example, a photographic composition comprises a water-permeable colloid binding agent containing as a color yielding compound a polymeric quaternary ammonium salt containing recurring quaternary nitrogen atoms and having attached to the atoms a salt forming anion, and through an ancyclic carbon atom, a dye intermediate nucleus capable of coupling to form an azo dye. Invented by James E. Kirby, Wilmington, Delaware. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application July 17, 1942. 5 claims.

2,396,327 and 2,396,328. METALIZED AZO PIGMENTS which may be used in the manufacture of printing inks. One compound is prepared by coupling a diazotized arylamine which is devoid of hydroxy groups to 2-hydroxy-3-naphthenic acids and then forming a metal complex which contains two atoms, one from nickel or cobalt and the other barium or a similar metal. Invented by Donovan E. Kvalnes and Harold E. Woodward, Penns Grove, New Jersey. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Applications July 31, 1941, and February 10, 1942, respectively. 10 and 7 claims, respectively.

2,396,357. DIAZOAMINO COMPOUND AND PRINTING PASTE consisting of an azo dye coupling component and a diazoamine compound having a negative aryl diazo radical which is devoid of water-solubilizing groups condensed with the radical of 6-sulfo-tetrahydroquinoline-8-carboxylic acid. Invented by Emil Gabriel Wiest, Wilmington, Delaware. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Delaware. Application May 26, 1943. 9 claims.

2,396,415. PIGMENTED FILM-FORMING COMPOSITION that is useful as a printing ink. The composition comprises a liquid organic film forming vehicle containing film-forming ingredients of the group consisting of oils and resins, a pigment and saponin. The saponin at the vehicle pigment interface is present to the extent of about 0.1 to 5% of the weight of the pigment. The composition is characterized by a lower degree of flocculation than a similar composition without the saponin. Invented by Earl K. Fischer, Long Island City, New York. Assigned to Interchemical Corporation, New York, New York. Application August 6, 1942. 2 claims.

2,396,430. PIGMENTED PROLAMINE COMPOSITION that is useful as a printing ink and is storage stable. The composition consists completely of non-volatile ingredi-

Fireman's Pole Used to Reach Press Controls

WHEN the tension man does not notice slack paper in the pressroom of the Syracuse (N. Y.) *Herald-Journal*, the pressman slides down a brass "fireman's pole" to reach the controls in a hurry. Apprentice Pressman Thomas Birklin, 18, is pictured using the pole.

Foreman Edward Leitz, who has worked with the *Herald-Journal* since 1911, says he's never seen such a pole anywhere else "except of course in a fire station. But there probably is another paper somewhere that uses poles like ours. It's a handy idea. I don't know who put it in; it was probably part of the pressroom design when we built our new plant here."

Dates Set For LNA 1946 Convention

Dates for the 1946 Convention of the Lithographers National Association at the Marlborough-Blenheim Hotel, Atlantic City, N. J., have been set for Tuesday, Wednesday, and Thursday, May 14, 15, and 16th. An all day golf tournament will be played Friday, May 17. The Association requests that reservations be made directly with the hotel as promptly as possible.

Saws 7 Inches of Slugs

in 18 Seconds

NO. 2
CABINET MODEL

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H. B. ROUSE & COMPANY
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YEARS of training of head and hand have developed the skilled technique that is the mark of every good lock-up man. But even the best man can't establish the kind of production records you like to see if he spends his time, and yours, in costly footwork hunting for lock-up materials that should be within his reach.

Hamilton Equipment, by making generous provision for necessary material and form storage, enables the printer to keep his working space clear . . . to use the skill of his head and his hands more profitably for you.

Hamilton Equipment also helps to cut down overhead by making maximum use of available floor area.

Write us, or ask your Hamilton dealer for your free copy of "Clean House for Profits," a booklet containing layout sheet and accurately-scaled miniature illustrations of composing room equipment. Use its helpful suggestions in experimental re-arrangements of your own composing room for more profitable production.

HAMILTON
MANUFACTURING COMPANY

TWO RIVERS, WISCONSIN

ents and is dispersible in dilute aqueous alkali to yield a pigmented film-forming liquid. It comprises a non-aqueous dispersion of pigment in a prolamine of the zein group and a detergent-soap-forming acid comprising from 10% to 45% by weight of the composition and from 50% to 200% of the weight of the prolamine. Invented by James S. Massarene, Oradell, New Jersey. Assigned to Interchemical Corporation, New York, New York. Application April 19, 1941. 8 claims.

Printing Presses and Equipment:

REISSUE 22,722 of 2,321,134. MACHINE FOR PRINTING COLOR DESIGNS ON TEXTILE FABRIC. A supporting bed for a textile web has a swingable stencil-screen carrying frame pivoted to one side of the bed, and a vertically slidable plate with anti-friction means located beneath the free end of the frame. There is a foot operated treadle, and a chain is connected to the slidable plate and passes around a pulley connection to a lever. Linkage connects lever to treadle, so that depression of the latter will raise frame to carry stencil frame upwardly and permit web to be advanced thereunder to its next printing position. Invented by Harry Fleisher, Watertown, Connecticut and George H. Tillett, New York, New York. Assigned to Roto-Matic Screen Printer, Ltd., New York, New York. Original No. 2,321,134, dated June 8, 1943, applied for September 6, 1941. Application for reissue June 6, 1944. 14 claims.

2,395,101. METHOD OF CYLINDRICALLY TURNING THE SURFACE OF A HOLLOW PRINTING ROLL which has a passage from the interior of the roll to the end of the journal to circulate hot fluid through the roll when in operation. The method consists of rotatably supporting the roll on its journals, circulating hot liquid through the roll and maintaining the roll at a predetermined temperature and guiding each roll to the desired accuracy. Invented by Lynn B. Case, Bound Brook, New Jersey. Assigned to John Waldron Corporation, New Brunswick, New Jersey. Application July 18, 1944. 4 claims.

2,395,151. METHOD OF PROTECTING INK FROM WATER in a lithographic press. To prevent water on a printing cylinder plate from reaching the inking rolls, the excess water is removed from the surface of the plate on the press cylinder after such plate has been moistened and before a major portion of the ink is applied thereto. This is accomplished by a roll which is between the water distributing roll and the ink distributing rolls which operates in contact with the periphery of the plate on the press roll. It acts as a collector to pick up excess moisture from the plate which is then eliminated from the roll by a blast of air. Invented by Joseph E. Sodomka, Racine, Wisconsin. Unassigned. Application April 15, 1943. 5 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

Intertype's 30th Report

President Neal Dow Becker of Intertype Corporation has issued Intertype's 30th annual report to stockholders. Net income for the year 1945 was $338,970.35, after providing for reserves, depreciation, taxes and other charges, except for adjustments, if any, which may result from re-negotiation of war contracts. The net income is at the rate of $1.53 per share on the 221,740 shares of outstanding common stock. Four dividends of 25c a share each were paid during the year 1945, aggregating $221,740. Provisions for various taxes during the year was $329,297, or $1.49 a share.

Because of the cancellation of all war orders in August, 1945, the corporation returned to peacetime products. It found itself in the situation of manufacturing at substantially increased costs while being held to established selling prices. These losses were further aggravated by a low volume of production due to inability to obtain a sufficient quantity of essential raw materials, particularly gray iron castings. In order to solve the castings problem the corporation bought control of an iron foundry in Poughkeepsie, N. Y., in November.

President Becker reports that in 1945 the corporation paid off the remainder of $360,000 of the 3% sinking fund debentures due June 1948. This leaves the corporation with no funded debt, no bank losses and no securities ahead of the common stock.

The president reports that despite outlays for purchase of the foundry and debt retirement, the company's cash position continues strong. On the balance sheet $125,000 has been transferred from the reserve for accounts receivable to the reserve for abnormal future losses which may result from wartime or postwar conditions.

Technical Catalog Available

A new catalog of technical books has been issued by The Chemical Publishing Co., Inc., 26 Court St., Brooklyn 2, N. Y. This catalog includes the latest books on chemistry, physics, science, technology, medicine, foods, formularies, drugs and cosmetics, engineering, metals, technical dictionaries, building construction, etc. This catalog, conforming with the requests of technical and scientific workers and librarians, gives the date of publication of each book as well as price, number of pages, detailed descriptions and full table of contents. A copy will be sent free to anyone.

Production requirements
GOING UP?

BETTER LOOK INTO TELETYPESETTER

Whether you are a job printer, newspaper, book or magazine publisher—if your composition includes much straight matter or listings—Teletypesetter can save *you* time, money and errors. Punch a tape with the perforator, place the tape in the Teletypesetter operating unit, and the line composing machine sets the type *automatically*.

We are working full speed ahead to complete Teletypesetter installations delayed by the war. We will be ready to make deliveries this year on orders placed *now*.

To learn how users have boosted production as much as 100%—how they set 350 to 400 lines of straight matter per machine hour—how they cut down on errors—write today to:

TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Ill.

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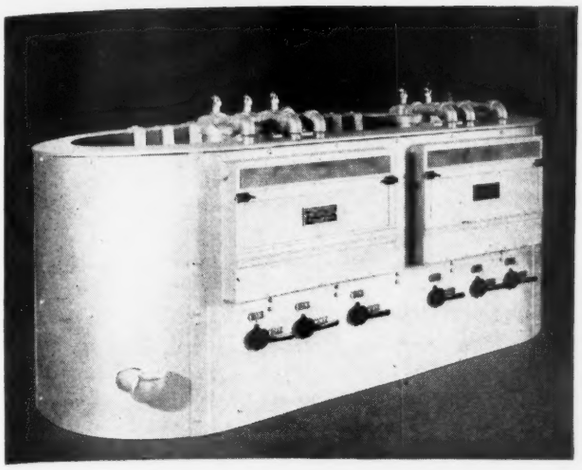

KEMP
STEREOTYPE POTS
Immersion Heated

That KEMP Stereotype Pots are correctly designed and properly constructed in every detail is attested to by the more than 600 now in operation in all parts of the country. A uniformly high quality of plates is assured by the many patented features which are a protection to the user and a guarantee of closer temperature regulation and faster casting rate. There is an actual saving of from 40% to 90% in fuel costs together with a vast reduction in dross formation and a great improvement in working conditions.

A survey of your plant by one of our engineers may enable you to make a handsome saving in operating costs.

★

For more complete information write for Bulletins 1-179 and 1-200.1

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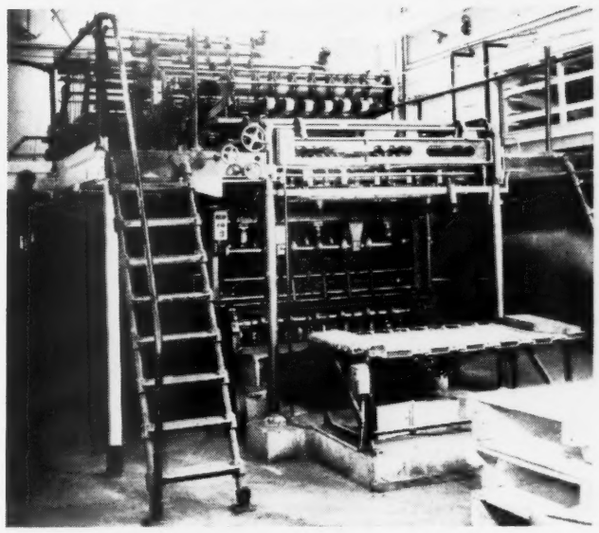
The C. M. KEMP MFG. CO.

405 E. Oliver St. • Baltimore 2, Md.

KEMP of BALTIMORE

For Sale

FUNK 8-COLOR WEB PERFECTING PRESS



Increase your production and cut your costs with this press. This press has regularly turned out 250,000 to 300,000 calendars per day, printed two sides, folded, stitched and slotted for hanging.

In one year's time, it has printed 23,435,000 two-color calendars, 9½ x 12½—20,193,000 almanacs, $6\frac{3}{16}$ x 9½—32 pages and cover, inside page two colors, cover four colors outside, two colors inside, 43,669,000 two color—32-page booklets $6\frac{3}{16}$ x 4¾ with cover, four colors outside and two colors inside.

Single sheets can be delivered at much higher speed.

DIMENSIONS OF PRESS

Length overall	**48 ft. 6 in.**
Width overall	**15 ft.**
Height of press	**14 ft.**
Depth of pit	**5 ft. 6 in.**
Foundation above floor	**2 ft. 1 in.**
Length of cylinder between bearers	**54 in.**
Circumference cylinder between bearers	**51 in.**
Diameter of plate cylinder	**15.85**
Diameter of impression cylinder	**16.09**
Diameter of printing circle	**16.234**
Circumference of bearers on printing circle	**51 in.**

This press is complete with 30 H.P. D.C. motor, and Cutler-Hammer switchboard, together with eight stations, and a 15 KW motor generator set, which drives the unit.

Fitted with hardened steel bearers, and self-aligning roller bearings. Ink rollers fitted with ball bearings.

Having discontinued publishing almanacs, calenders and booklets, we offer this press and equipment, at an unusually attractive price. Press and equipment in perfect condition.

For complete information, address —

E. H. Beardsley, General Manager or Fred Lobley, Chief Engineer

Miles Laboratories, Inc.

ELKHART, INDIANA

New $1,200,000 Plant for Fairchild Press

THE FAIRCHILD PRESS, INC., 8 East 13th St., New York, N. Y., has announced plans for the construction of a new plant that will cost $1,200,000, exclusive of equipment.

The new building will be located at 3-9 East 12th St., adjoining the present six-story Fairchild plant. It will be 12 stories high, and will provide an additional 105,350 sq. ft. over the present 45,000 sq. ft. of floor space. The new building is expected to be ready for occupancy within a year.

The lower floors of the new building have been laid out to accomodate additional press equipment when such expansion becomes necessary. The rest of the building will be occupied by the editorial, advertising, and circulation offices of the various Fairchild publications.

The Fairchild Press prints two daily, one semi-weekly, and one weekly newspaper as well as a semi-monthly magazine. These are: *Women's Wear Daily*, *Daily News Record*, dailies; *Retailing Home Furnishings*, semi-weekly; *Footwear News*, weekly; and *Men's Wear*, semi-monthly. In addition to these publications are the *Fairchild Blue Book Directories*, and the *Fairchild International* which is published in both Spanish and English editions.

The large volume of printing necessary for the issuance of the Fairchild publications is handled at present by the following equipment:

23 Intertype and Linotype machines
2 Ludlow head-setting machines
1 Automatic slug-casting machine
1 Smelter, with ingot frames
2 Hoe Monarch Matrix Rolling Machines
2 Wood stereotype casting machines for flat and curved plates
Plate trimmers, shavers, saws, and other supplementary equipment.
2 Hoe Rotary Presses—one two-story, four-unit, 128 page tabloid capacity; one two-story, two-unit, 64 page tabloid capacity.
Job printing shop which includes two 17 in. by 22 in. Kelly presses, folding machines, stitchers, cutters, etc.

Orders have been placed for additional equipment in all mechanical departments to take care of the expected increase in the volume of work. The company does not contemplate adding engraving equipment, however, but will continue to employ the facilities of the Powers Engraving Company.

The architects for the new building are Harrison, Abramovitz, and Wiggins. Lockwood Greene, Inc. are the engineers, and Laurance C. Roberts, Inc., the builders.

TRIPLEMETAL
Combines The Virtues
of COPPER
in holding fine details up to 150 screen half-tone work and close register color jobs;
of ZINC
for quick etching and easy routing and mounting;
of BRASS
for rugged resistance to pressure and wear.
We pull no punches in our recommendation of Triplemetal for most engraving jobs, and for electrotyping and mat moulding. Many newspapers use it for signature cuts and large type faces. Try it. You'll like to work it. You'll find it profitable.
THE Edes
MANUFACTURING COMPANY
PLYMOUTH, Established 1850 MASS., U.S.A.
AUTHORIZED REPRESENTATIVES
CHICAGO: Chemco Photoproducts Co.
NEW ORLEANS: Chemco Photoproducts Co.
ST. LOUIS: Mid-West Photo-Eng. Supply Co.
WASH., D. C.: E. H. Walker Supply Co.
RICHMOND, VA.: E. H. Walker Supply Co.
BOSTON: Allan B. Croke Co.
BUFFALO: C. S. Illingworth
DETROIT: R. L. Porter
CINCINNATI: G. C. Dom Supply Co.
SAN FRANCISCO: J. W. Feinstein
ATLANTA: Chemco Photoproducts Co.
Thompson-Hayward Chemical Co.
DENVER, MINNEAPOLIS, TULSA,
WICHITA, MEMPHIS, DALLAS, OMAHA
KANSAS CITY, OKLAHOMA CITY
DES MOINES, HOUSTON, SAN ANTONIO
EDES ELECTRICAL METALS
Regular Zinc
Hard Matrix Zinc
Triplemetal
Copper
Brass
Engravers Sheets

Patent Granted for Luminescent Printing

A PRINTING method and product for the application of luminescent materials to paper surfaces and the like has been granted to Sampson Isenberg, assignor to General Luminescent Corporation of Chicago. The method refers to a means for applying characters to a surface to make them visible both in daylight and ultraviolet light. The method may be used in the production of instrument dials, maps, table tops, books, direction cards, markers, or the like which must be used during the day or night. This method differs from printing by inks which have the luminescent pigment compounded in the ink and which are used on regular presses.

Mr. Isenberg's patent is related to the application of powder containing luminescent material by dusting directly upon the design which is printed upon the paper with a tacky varnish-like material. The inventor states it is preferable to have a paper with dull black surface upon which to do the printing and dusting. In developing the process he ran into the problem of adherance of powdered luminescent material because it adhered not only to the printed design but to the balance of the surface of the paper where it should not adhere.

He overcame this problem by utilizing in a particular way, with the luminescent

Leading Stereotypers Choose
"COME-BACK" and "STAY-BACK"

STEREOTYPERS who have the "Know-How" use Eastern Tru-Mold Cork Molding Blankets because of their superior "come-back" qualities. These same properties make for sharp, clean impressions even after severe usage. They have greater flexibility that keeps edge cracking to a minimum. Made with just the right amount of Bakelite to insure perfect density. Only tru-Molds have these properties.

Tru-Molds can be had in either "Medium," "Medium-Hard" or "Hard" density in the following sizes.

Sizes	1/4" Each	5/16" Each	3/8" Each	3/16" Each
20" x 24"...	$2.50	$3.75	$4.50	.....
21" x 25"...	2.75	4.00	4.75	$2.50
22" x 26"...	3.00	4.25	5.00	.....

(One size only on 3/16"—21" x 25")

Send in your order now

LEADING stereotypers use "Flecto" Gummed Backing Felt to secure maximum "stay-back" resulting in clean-cut plates. "Flecto" sticks flat to the mat regardless of heat used in scorching. It is free from cracking, slipping or crystallizing. Order it in sheets or strips. Either way it cuts or tears easily, cleanly and without ragged edges. Accurately gauged, uniform throughout, soft, pliable; will not peel or separate in layers; conforms to and shrinks with the mat.

Place your order today in either sheets or strips for the following sizes.

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".

Gauge .035 (Red) sheeted 18" x 24".

Gauges .040, .045 (Green) sheeted 18" x 22".

Gauges .050, .060 (Gray) sheeted 18" x 22".

Cut into strips 9" or 18" long and 1/8" to 1" wide at no extra charge.

EASTERN NEWSPAPER SUPPLY

9603 NORTHERN BOULEVARD **CORONA, L. I., NEW YORK**

REDUCE metal handling costs with the MONOMELT system

By eliminating the old furnace method of melting and pigging type metal the MONOMELT system—

- Reduces costs by moving type directly from kill-out to type casting machine.
- Reduces dross loss 50% to 75%—less frequent toning of metal is necessary.
- Cuts "down" time due to metal troubles—you get more productive hours per machine.
- Because metal is kept in better balance the casting temperature can be reduced 35° to 50° assuring high quality slugs that mean easier proofing, better mats, finer press work.

HERE IS HOW ONE NEWSPAPER SAVED MONEY AND TIME WITH THE MONOMELT SYSTEM

One newspaper using 17 typecasting machines threw out their obsolete furnace, saved $1,273.68 per year in metal and handling costs alone with the MONOMELT system. They made a further saving because the efficiency of each typecasting machine was increased 10% to 25%.

Investigate MONOMELT system of type metal handling and see how it will save you money and time while improving your typecasting. *Write today for detailed report of savings made with* MONOMELT *in a typical newspaper plant.*

MONOMELT DROSS SIFTER

● Keep your type metal cleaner with the MONOMELT Dross Sifter. Fits tightly in the end of standard dross drum, vanes in top spread dross evenly over screen for rapid, efficient sifting. Cleaner metal reduces machine troubles, improves quality of slugs. Mail your order today. Price $25.00 f.o.b. Minneapolis.

MONOMELT COMPANY

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material, a chemical compound in the form of a partial ester of a polyhydric alcohol. The result is that adherance of the luminescent material to a previously applied (printed design) tacky surface is promoted and adherance of the luminescent material to the paper surface, where there is supposed to be no luminescence, has been substantially entirely eliminated. The use of the partial ester also has the property of limiting the effect of weathering, particularly the marked tendency of a combination of light and moisture to destroy the efficacy of certain types of compounds having luminescent properties.

By carrying out the invention, the paper surface is first treated by printing a base coat of the design with a varnish. With certain types of paper, however, a layer of clear printing varnish is first applied under the base coat (printing design). The base coat comprises a tacky sizing material to which the powdered luminescent powder will adhere readily. A coloring material may be added to the sizing material to increase by reflection the amount of ultra violet light delivered to the luminescent material.

The inventor discusses the compounding and application of luminescent powders to accomplish the results claimed.

The printed and dusted sheets may be entirely sprayed with a synthetic resin solution to furnish additional protection to the printed characters. "In general, however," states Mr. Isenberg, "this is not necessary."

Brothers Alfred W. and Benjamin Lamson, are the new owners of G. C. Dom Supply Co., Cincinnati photo-engraving and Graphic Arts supply house.

Dom Acquired by Lamsons

The G. C. Dom Supply Co., Cincinnati, O., founded in 1905 by the late Gilbert C. Dom, was sold in February. The new owners are Alfred W. (left) and Benjamin W. Lamson, Jr. (right), sons of Benjamin W. Lamson, a well-known Cincinnati industrialist. Alfred W. Lamson is president-treasurer and his brother Benjamin is vice president-secretary of the newly formed corporation, which will continue business at the same premises (125 East Pearl St., Cincinnati 2, O.) and under the established name of the Dom concern.

The Lamson brothers, who served in naval aviation during the recent World War, were educated at Yale University, where they specialized in business sciences. They have had considerable business experience and have entirely reorganized the Dom concern. The firm supplies Graphic Arts equipment, materials and supplies. A technical department also has been installed under the supervision of Benjamin W. Lamson, Jr. to aid in platemaking and Graphic Arts problems.

Grant Conducts Course

Don Grant, lithographic research assistant of the Harris-Seybold-Potter Co., conducted an intensive course in color process photography at the New York Trade School during the week of March 11 to 16, according to D. J. MacDonald, Dean of the Lithography Dept. The course covered the major technical and practical phases of lithographic color process photography.

The lithpgraphic industry, according to Mr. Grant, is expanding its research and educational program to such an extent that before long, color process photography will become standard practice in all lithographic plants.

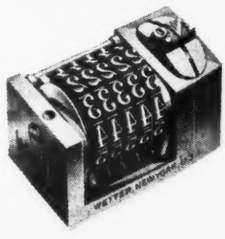
numbers that made HISTORY U-235*

*Number designating uranium used in the atomic bomb that helped defeat Japan

numbers that make PROFITS ROMAN No 12356 FACSIMILE IMPRESSION WETTER LOCK-WHEEL MODEL

Of the many kinds of finishing work that printers can perform at a substantial profit, numbering is "Number One" on the list—especially when Wetter Numbering Machines are used. These *exclusive* Wetter features explain *why* "you can number better with a Wetter":

1 Frame of one-piece solid steel.
2 Oval-shaped plunger, supported on all sides; no wobble, no smear.
3 Lowest plunger; only 7 points high.
4 Drop-cipher strongest made.
5 Wheel shaft has V-slot for easy oiling.
6 Machines are even picas in length.
7 Lock-Wheel Model requires no additional room in form.



WETTER LOCK-WHEEL MODEL

1081

WETTER NUMBERING MACHINE CO. Atlantic Avenue & Logan Street, Brooklyn 8, N. Y.
Sold by All Dealers and Branches of AMERICAN TYPE FOUNDERS

ACRAPLATE

Cuts Printing Costs

Illustrated is the Model 10 Acraplate with 20" x 16" platens. Acraplates are available in a complete range of sizes to meet the needs of every plant — large or small.

The use of rubber plates made with the Acraplate lowers costs in these specific ways . . .

- Eliminates the profitless investment and costly storage of standing forms. Resinous matrices can be stored indefinitely in 1–4 the space of metal, and weigh only about 1–30 as much.
- Permits many more jobs to be run in multiple with resultant savings in press time.
- Yields definite savings in ink and make-ready costs.
- Sheets lie flat after printing due to extremely light impression and elimination of embossing, thereby speeding up gathering and jogging.

Any one of these savings is well worthwhile. Acraplate brings you all of them plus many others. Over one hundred Acraplates are doing it every day for progressive plants throughout the United States and Canada.

It will pay you to get complete facts about the Acraplate. It will pay you to do it today. Write now to Lake Erie.

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— Leading manufacturer of hydraulic presses . . . all sizes and types . . . stereotyping . . . plastic molding . . . processing . . . rubber vulcanizing . . . metal working . . . special purpose.

New!

CHANNEL ENTRANCE BRUSH

Z-46
(*Specify model of machine*)

$1.25 and $1.50

Spring Handles for long channel entrances.

Over a period of many years, machinists have been asking us for a brush to clean channel entrances. They know that there is little use cleaning matrices and magazines if the channel entrances remain gummy.

Here at last is a brush that will do the trick. A gentle rubbing of the brass bristle of this specially designed brush over the bottom of the channels will clean and polish the sliding surfaces and keep them to a shiny finish.

There are three models to take care of the various lengths of channel entrances.

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never wear out their first welcome

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Distributes Copies of Trade Customs

BECAUSE mechanical and production executives should be familiar with them, we are reprinting the Trade Customs which Printing Industry of America, Inc., is distributing to 37,000 printers in the United States. PIA has reaffirmed the trade customs of the commercial printing industry which have been in existence for more than 50 years. The industry has also included the recognized trade customs of the lithographic field so as to cover all commercial printing transactions.

The repromulgation of the printing trade customs is being handled by a committee of Printing Industry of America, Inc., headed by Carl E. Dunnagan, president of the Inland Press, Chicago. Others on the committee are John A. Bresnahan, Washington, D. C., general counsel of PIA; A. H. Jeffries, Los Angeles, president of Jeffries Banknote Co.; T. G. McGrew, field secretary, New York Employing Printers Association, and Fred E. Winsor, secretary of the St. Louis Associated Printers & Lithographers.

The full text of printing trade customs follows:

1. ORDERS regularly entered cannot be cancelled except upon terms that will compensate against loss.

2. EXPERIMENTAL WORK performed at customer's request, such as sketches, drawings, composition, plates, (including lithographic plates), presswork and materials shall be charged for at current rates.

3. SKETCHES, COPY, DUMMIES and all preparatory work created or furnished by the printer, shall remain his exclusive property and no use of same shall be made, nor may ideas obtained therefrom be used, except upon compensation to be determined by the owner.

4. ART WORK, TYPE, PLATES, (including lithographic plates), engravings, electrotypes, negatives, positives and other items when supplied by the printer shall remain his exclusive property, unless otherwise agreed in writing.

5. ALTERATIONS: Proposals are only for work according to the original specifications. If through customer's error, or change of mind, work has to be done a second time or more, such extra work will carry an additional charge, at current rates for the work performed.

6. STANDING TYPE MATTER: plates, (including lithographic plates) and negatives will not be held after completion of the order except by special agreement and charge therefor.

7. PROOFS: Two proofs shall be submitted with original copy. Corrections, if any, to be made thereon and to be returned marked "O.K." or "O.K. with corrections" and signed with name or initials of person duly authorized to pass on same. If revised proofs are desired, request must be made when proof is returned. Printer is not responsible for errors if work is printed as per customer's O.K.

8. PRESS PROOFS: An extra charge will be made for press proofs, unless the customer is present when the form is made ready on the press, so that no press time is lost. Presses standing awaiting O.K. of customer will be charged at current rates for the time so consumed.

9. OVER RUNS or under runs not to exceed 10% of the amount ordered shall constitute an acceptable delivery and the excess or deficiency shall be charged or credited to the customer proportionately.

10. CUSTOMERS PROPERTY: The printer shall charge the customer, at current rates, for handling and storing customer's stock or customer's printed matter held more than thirty (30) days. All Customer's property that is stored with a printer is at the customer's risk, and the printer is not liable for any loss or damage thereto caused by fire, water leakage, theft, negligence, insects, rodents, or any cause beyond the printer's control. It is understood that the gratuitous storage of customer's property is solely for the benefit of the customer.

11. DELIVERY: Unless otherwise specified the price quoted is for a single shipment, F.O.B. customer's local place of business. All proposals are based on continuous and uninterrupted delivery of complete order, unless specifications distinctly state otherwise.

12. TERMS: Net cash thirty (30) days. All claims must be made within five days of receipt of goods.

13. DELAYS IN DELIVERY: All contracts are made contingent upon wars, strikes, fires, floods, accidents or other contingencies beyond the printer's control.

14. REPAIRS, CHANGES, trimming, mortising, anchoring, special proving or similar work required on materials which are furnished by the customer, including but not limited to, drawings, engravings, electrotypes, and negatives, shall be billed at current market rates.

15. PAPER STOCK furnished by the customer shall be properly packed, free from dirt, grit, torn sheets, bad splices, etc., and of proper quality for printing requirements. Additional cost due to delays or impaired production on account of improper packing or quality shall be charged to the customer.

16. COLOR PROOFING: Because of the difference in equipment and conditions between the color profing and the pressroom operations, a reasonable variation in color between color proofs and the completed job shall constitute an acceptable delivery.

Non-Members Welcome

May 14, 15, and 16th are the dates set for the 1946 Convention of the Lithographers National Association in Atlantic City at the Hotel Marlborough-Blenheim. Reservations should be made direct with the hotel. Non-members are invited and urged to attend the Convention, the Association says, and all regular sessions will be open to them.

Beauty
in every line
when you use
BURGESS
CHROME MATS
Yes, with these superior mats you get beautiful clean-cut reproductions. Burgess Chrome mats bring out clearly the most minute details in the finest serifs, reproduce solids equally well. In short, stereotype departments know they can depend on these mats for the finest and most faithful reproduction of halftone subjects. And their easy manipulation makes them the favorite, too, with stereotypers.
If you're not already using them, try Burgess Chrome mats today—and see the difference!
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A Laboratory Product
BURGESS
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MATS

Booth's Zink Cut Cement prices in the United States: 75c per tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots.

The One-String Fiddle

You've heard about the old one-string fiddle? It served its purpose efficiently and well. BOOTH'S ZINK CUT CEMENT is made for one purpose only—that of fastening all kinds of cuts to wood or metal base.

Booth's Black Rubber Rolls

for line-composing machine keyboard shafts are carefully made. Two maximum qualities distinguish these rolls—they have resiliency, and they are the same diameter throughout their length when properly applied to the shaft.

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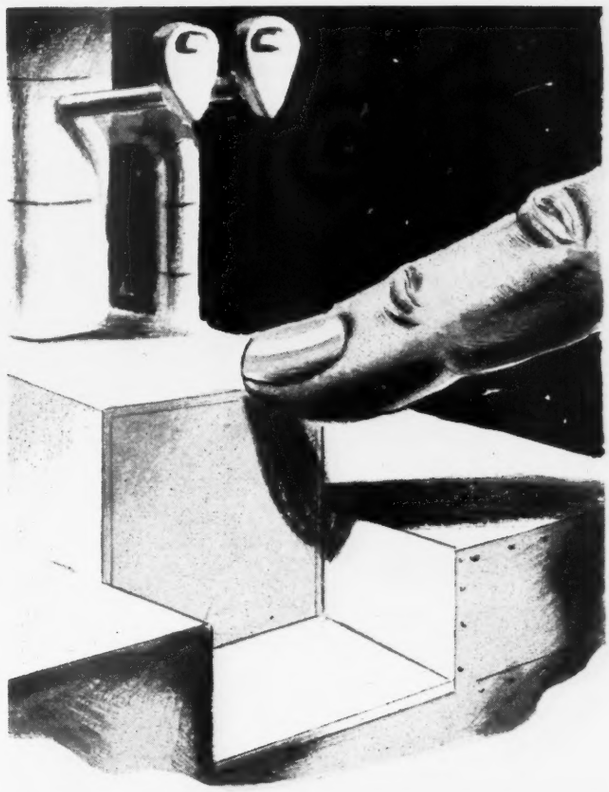

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THE PAPER SITUATION

As it Affects the Commercial Printer

OFFICIALS of Printing Industry of America, Inc., representing the commercial printing industry, and American Paper & Pulp Association, representing paper manufacturers, met in New York on March 1 to seek a solution to the growing shortage of printing paper.

At the meeting, the problems facing the commercial printing industry were fully outlined by James F. Newcomb, president of Printing Industry of America. The paper industry was able to offer no concrete assurance that the supply situation would improve but pledged itself to study the whole problem carefully and submit a program which might help in the crisis.

The discussion moved along two lines: short term and long term. Representatives of PIA pointed out that there is today a very serious shortage of printing papers of all kinds, particularly coated papers; that the demand for commercial printing is increasing at a very rapid rate and is, perhaps, 30% over the highest war-time demand. In the face of this increased demand for printing, the increase in paper supplies projected by the paper industry will be inadequate, in the opinion of PIA, to take care of the needs.

Commercial printing representatives sought to find out whether increased prices of pulp and paper would result in increased production and whether the reimposition of order L-120, limiting the weights of paper which manufacturers could produce, would add to the paper yardage available for printing.

From a long term standpoint, the printing industry representatives pointed out that the commercial printing industry was investing upwards of $200 million dollars in new equipment in anticipation of continuing increased demand for its services and that the printing industry needs a comparable increase in paper-making facilities. The result of failure to achieve an increase in paper-making facilities, according to Mr. Newcomb, might be that, short of a depression, there would never be enough paper manufactured in the United States to take care of the demand.

According to Mr. Newcomb, "The point that we have made most strongly to the paper industry is that irrespective of who actually buys the paper from the mill, it is the commercial printer who, in the final analysis, makes the investment in the printing equipment upon which the paper is used. There can be no security for the printing industry unless the industry can have confidence that its investments will be protected by adequate supplies of paper."

In reply, the paper industry representatives pointed out that the present paper-making facilities were being operated at or near the maximum extent possible; that an unfavorable price structure had dislocated some types of paper production and that price increases were necessary in pulp and paper merely to maintain present production.

Commenting on the developments in paper crisis, Mr. Newcomb said:

"In terms of security for both industries, there is much to be gained from cooperation. This will have to take the form of give and take. In return for our support of the paper industry's program we should expect the paper industry to help us get additional yardage."

President Newcomb's Comments

An abstract of the comments made by President James F. Newcomb, president of PIA, Inc., upon the paper situation is as follows:

UPON Printing Industry of America, Inc. has fallen the responsibility for acting vigorously to obtain more paper for the benefit of all commercial printers regardless of process.

This is truly a national question and it can be handled only on a national level by organizations which are qualified to speak for the industry of the whole country. The question is one which must be dealt with in New York and Washington by representative groups. For the paper industry there is the American Paper and Pulp Association; for newspapers, the American Newspaper Publishers Association, for magazines, the National Publishers Association; for books, the American Book Publishers Council; for commercial printers, Printing Industry of America.

The printing industry, as it contemplates a growth of 35-50% over 1944 in the value of its products, is faced with

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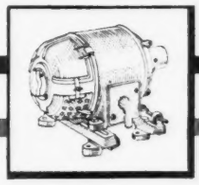

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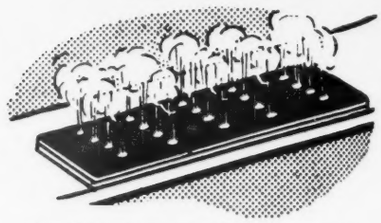

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three major questions: equipment, manpower and paper.

On paper, Printing Industry of America opposed the too sudden termination of L-120 before the old WPB and the present Civilian Production Administration. But in the frenzy of the war's end, when business was seeking to remove all restraints, this and other orders which might have lessened the effect of the increased demand for paper were abolished.

Recently, at least ten paper mills have been taken over by large consumers, principally magazines. This has been accomplished through outright purchase or by control of entire output. The effect of this has been to partially disrupt the movement of paper through normal trade channels. Some sources of supply are no longer available to some commercial printers.

But the greatest paper problem seems to be the fact that the paper industry is not large enough. Unless much more paper is produced than is presently being produced or that the paper industry expects to be able to produce, paper consumers will find themselves in progressively shorter supply.

Recently James R. Brackett, general manager of PIA, Irving D. Robbins, our public relations counsel, and I met with representatives of various groups who are concerned with this problem. At a meeting with D. K. Brown, president, and E. W. Tinker, executive secretary, of the American Paper and Pulp Association, we emphasized that we seek the cooperation of the paper industry. We outlined the expected paper requirements of our industry and the shortage situation as it exists throughout the country. We frankly stated that much of the shortage may be the result of additional business. We sought the assistance of the paper industry in obtaining greater production and more yardage during the immediate period ahead and enough additional production facilities to take care of the future increased demand from paper consuming industries. We offered to explore the entire question of price increases for pulp and paper and said that in our opinion our industry would support such increases provided a substantial increase in paper would result therefrom.

If a sound program can be developed in cooperation with the paper industry which will take care of both the short and long term problem, we will go along with it by all means at our disposal, including the maximum influence we can exert to get favorable action from government agencies. We are asking the paper industry to extend itself to get us the additional supplies of paper. We have reason to believe that by now the paper industry is fully aware of our determination to have additional paper and to take whatever steps are necessary to get it.

Printing Processes in Package Field

RECENTLY, George Welp, Interchemical's Advertising Director, addressed the Folding Paper Box Assoc. of America meeting in Chicago.

Among other packaging subjects, he spoke of folding boxes and other containers featuring four-color kodachromex reproductions for foods, shampoos, blankets and other products.

There will be a demand for much faster speeds in package printing. New package printing inks are helping to make possible higher press speeds. Among these is a moisture-set ink which "dries" or sets in the presence of water, steam, or other water vapor. The moisture is introduced on the paper web after it passes through the press impression cylinders. The formulation of the ink is such that a chemical reaction occurs in the presence of moisture to set the ink firmly on the paper. These inks are odorless.

There has been an increasing volume of commercial gravure package printing, food and beverage labels, bags and wrappers. Gravure inks may be printed on paper, cellophane, carton stock, glassine, acetate, foil and other materials. Production speeds have reached as high as 1400 ft. of printed web per minute.

Mr. Welp also called attention to the aniline printing method for package printing. New types of ink are being used for bread wraps, foil bags and wraps, glassine bags, mil containers, cellophane bags and wraps, confectionery wraps and acetate wraps. The aniline press design is simple and the process can be adapted to a wide variety of materials.

Color Designation

General Printing Ink Co., Div. of Sun Chemical Corp., has issued a 16-page booklet in which is presented a visual interpretation of the Inter Society Color Council-National Bureau Standards method of Color Designation.

There is a need for uniform methods and standards in color measurement and specification. The simple use of everyday words as a key to color appearances was the objective of the ISCC-NBS Method described in this booklet. The text is illustrated and so written that the reader can easily grasp the relationship between words and color forms.

A copy of the ISCC-NBS Method of Color Designation is yours for the asking. Address your request to the Advertising Department, General Printing Ink Company, Division of Sun Chemical Corporation, or *Printing Equipment Engineer* will be glad to pass along your request.

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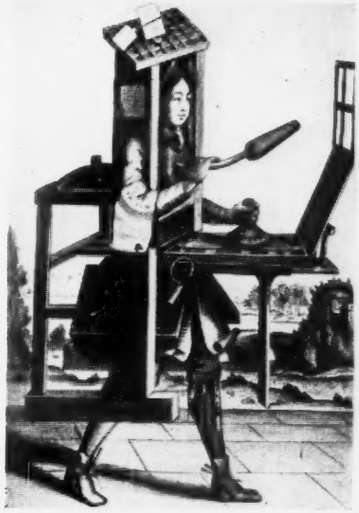

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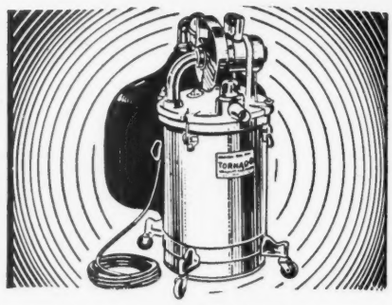

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The author provides definite and detailed methods for evaluating the job and for appraising the job-holder. A kit of blank forms which are part of this manual make it a practical working tool.

In the manual are contained three sections:

In Part I is explained and described the Job-Analysis-Rating-Evaluation of Supervision method, which enables management to determine how much the job itself is worth in either hourly rate or salary range.

Part II is devoted to a detailed description of a definite plan by which management can determine the weak and strong points of the individual occupying the supervisory position.

Part III supplies the reader with a working kit of blank forms for running his own tests, 22 forms in all, printed on heavy ledger paper, designed for actual use, applicable to both plant and office personnel.

What makes this manual particularly valuable is the wealth of illustrative material it contains, and the pains taken by the author to make the book thoroughly useful. Included are: Typical forms to demonstrate actual job evaluation; actual job performance appraisal forms completely filled out; 34 detailed instruction sheets; 11 illustrated charts.

How To Evaluate Supervisory Jobs—By Albert N. Gillett; 8½ in. by 11 in., 141 pages, loose-leaf gold stamped fabrikoid binder, $7.50 f.o.b. shipping point. Order direct from National Foremen's Institute, Inc., Deep River, Conn.

Situations Open at GPO

The Government Printing Office, Washington, D. C., has announced that it is in need of slug-machine operators, Monotype keyboard operators and proofreaders. Scale is $1.57 per hr. for day work, $1.81 per hr. for night work; 40 hr. week, plus time and one-half for overtime.

In accordance with approval of the Civil Service Commission, and pending the establishment of competitive registers, the Government Printing Office has authority to recruit and approve temporary appointments to linotype operators, monotype keyboard operators, and proofreaders, who meet the qualification standards currently used for filling vacancies. When the registers are established, which may take from 6 months to a year, temporary employees who are listed thereon will be considered for permanent appointments as the needs of the service require.

The procedure for application is as follows:

One copy of Form No. 57, Application for Federal Employment, which may be obtained from the Personnel Division, should be completed by the applicant and returned immediately to the Personnel Division, Room 803, Government Printing Office, preferably in person, or by mail.

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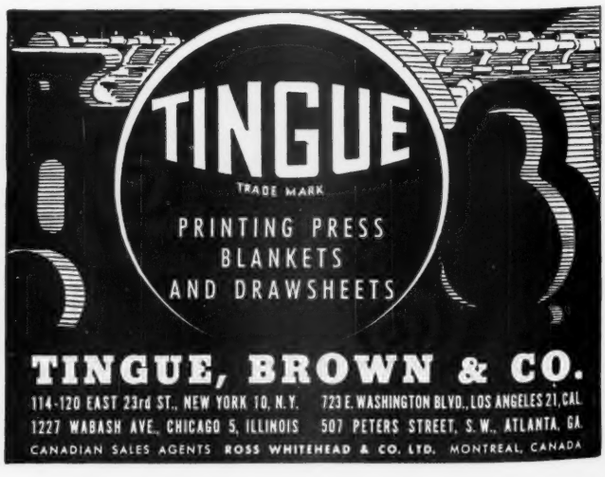

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Analyze Grievance Records at Periodic Intervals

"IF YOU have any complaints, take them up through the grievance procedure and we will settle them promptly." This very common parrot-like answer to all employee gripes is sharply criticized by A. C. Croft, President of the National Foremen's Institute, in a special report to the Institute's members. Since most printing trades unions' employees have been dealing with unions for a long time, the threat of strikes does not prevail in the industry to the same extent as in industry in general. We feel, however, that printing executives will find considerable wise counsel in Mr. Croft's statements with respect to periodic re-evaluations of their companies' labor relations policies.

The attitude illustrated by this answer is "stupid," Mr. Croft asserted, "because it implies that the grievance procedure can be made a substitute for a periodic re-evaluation of the company's labor relations policies and for continuous attention to the manner in which the supervisory staff applies these policies."

Many an employer has wound up a period of conscientious effort to deal fairly with his union in a mood of at least partial disillusionment, Mr. Croft observed. But the disillusionment is at least partly unjustified. For such an employer, Mr. Croft contended, apparently assumes that as long as his good faith is beyond question, he has done his best and should have nothing to worry about.

"That assumption, however natural psychologically, lacks validity," Mr. Croft declared. "It bespeaks a failure on the part of management to realize that establishment of a perfect grievance procedure does not obviate the need for continuous alertness in the company's labor relations policy. The goal of that policy is to reduce grievances, not to make sure grievances are processed perfectly through the grievance machinery."

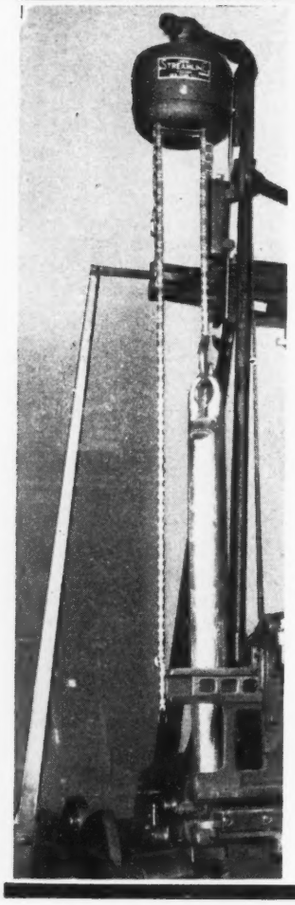
By itself, the establishment of a smoothly functioning grievance machinery merely articulates and accentuates grievances, opening up a focus of infection and channeling it directly to top management's attention, Mr. Croft states. As a result, the number of employees complaints is bound to increase, unless the basic causes of the grievances are removed. Formerly these complaints were short-circuited or completely disregarded, or unvoiced by employees out of fear of reprisal from their foremen.

Some employers "have cut off their own nose to spite the union's face," by angrily limiting the type of grievances they would consider after the establishment of grievance machinery loaded them down with complaints, Mr. Croft pointed out. "The inevitable result of such employer reaction is growing employee dissatisfaction that explodes, sooner or later, in a series of wildcat strikes. For 'talking out' a complaint provides an exit for emotional high pressure.

"Otherwise there would simply be created additional resentment, this time against the employer's apparent arbitrariness in refusing to listen to complaints. By chocking off the channel of grievances, the employer does not put over-aggressive union representatives in their place. On the contrary, he generously furnishes the very nourishment on which they thrive."

Instead of limiting grievances, Mr. Croft advocated that grievance records should be analyzed periodically to determine in what departments or supervisory units most of the complaints arise, what the frequency rate for different types of grievances is, and where and why there are leaks in the procedure through which complaints rise above the first line of supervision where they should be settled.

"With such a record," said Mr. Croft, "management will be in a better position to apply constructive remedies specifically designed to cure the bad spots without disturbing the good ones. The chances are that such analyses will uncover a number of dispute-creating factors in company policy or supervisory attitudes and routines, of which top management is unaware or permits to exist simply because of long-established precedent."



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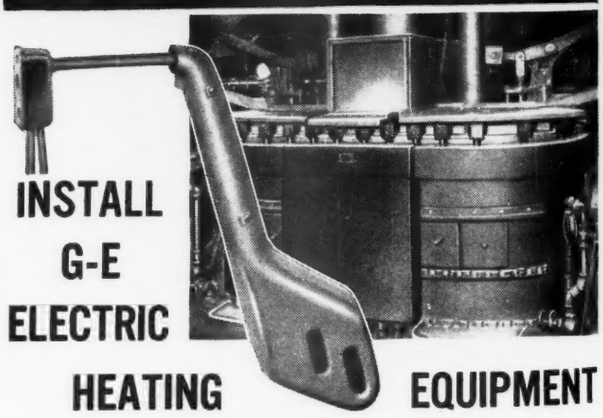

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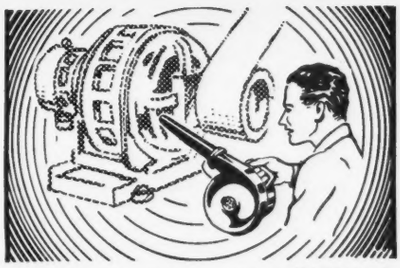

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British Engineers Register Re-opened

Through Director A. W. Berry, the British Engineers Association announces that since the conclusion of hostilities the association has received many applications for membership. The BEA Register has been re-opened. Any American engineers interested in affiliating with BEA may address the secretary, J. W. Thomas, care of the association, at 32 Victoria St., London, S.W.1, England.

The association was founded in 1911. It is, of course, a British organization. Its scope is wide. Among its members are manufacturers of such equipment as boilers and boiler house plant, prime movers, cranes, printing machinery, textile machinery, machine tools, steel works plant, chemical plant and hydraulic machinery.

The association has kept its members informed of changes and developments in regard to both the technical and commercial aspects of trends in engineering progress. A classified handbook of the products of members and other relevant information has run to some twenty annual editions.

The services rendered by the association cover an extensive field. The staff assists members in furthering their trading operations and facilitates the transaction of business with buyers overseas. A special department is maintained for dealing with inquiries received from many countries and in many languages. Members are supplied on request with information regarding firms and companies abroad, including particulars of their financial status.

Reaches All-Time High

St. Regis Paper Co., with net sales of $52,500,824, an all-time high, had a 1945 net income of $2,211,411, it was announced in New York by Roy K. Ferguson, president. The 1945 sales total compares with $48,388,277 in 1944 and $25,527,784 for 1943. Net profit in 1944 was $1,853,513, and in 1943 it was $1,855,927.

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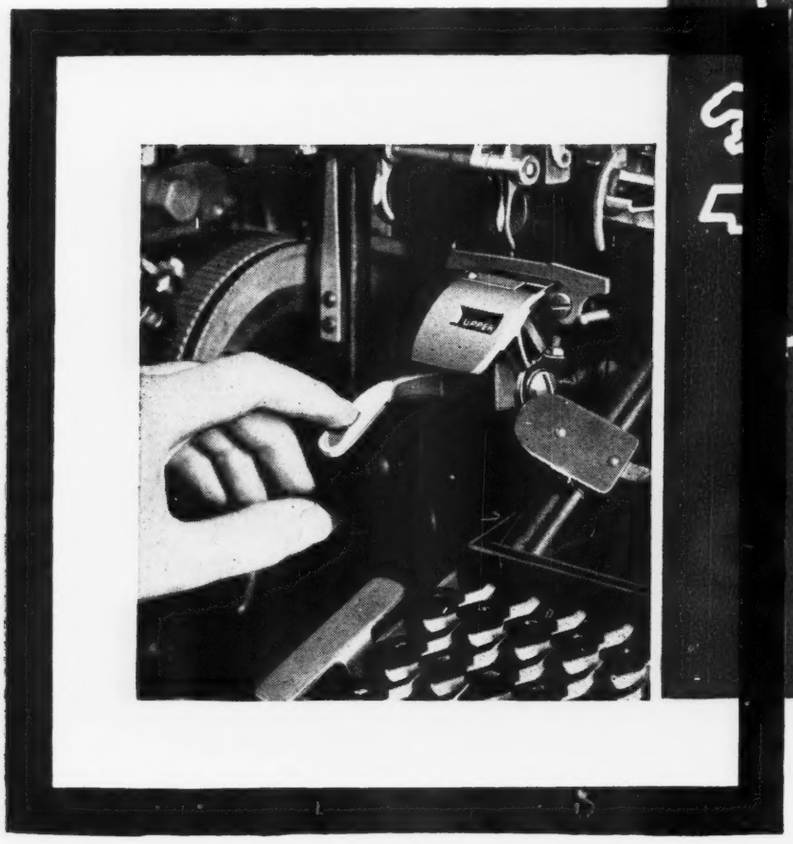

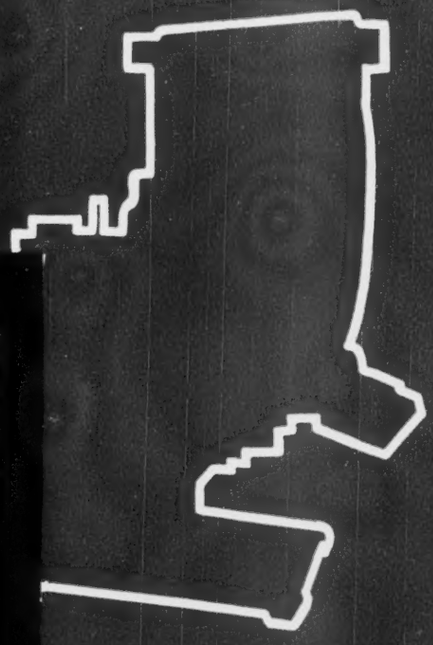

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